Investigation of Crowdfunding in Terms of innovative SME Financing in a German Context

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A thesis submitted in partial fulfilment of the requirements of the University of Bolton for the degree of Doctor of Philosophy

This research programme was carried out
in collaboration with Amity University [IN] London

April 2018

ABSTRACT

The purpose of this mixed-methods study was to answer the following four questions: (RQ1) What is the percentage of crowdfunding in the overall funding of SMEs? (RQ2) Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on other—that is, traditional—forms of financing? (RQ3) What is the potential impact on the traditional financing market of a shift in SME financing demand from financial institutions to crowdfunding platforms? (RQ4) In the context of crowdfunding, what are potential regulatory gaps that could lead to systematic risk? All of questions 1 and 2, and some of question 3, were quantitatively answered on the basis of data obtained from 1,000 German SMEs. Some of question 3 and all of question 4 was qualitatively answered on the basis of data from 46 experts assembled as part of a Delphi methodology. The purpose of using the Delphi methodology was to validate the regression analysis and show a proven causality of the mathematical regression.

The main finding for RQ1 was that there was a statistically significant difference between technology-based SMEs' reliance on crowdfunding as a percentage of all funding (6.41%. *SD* = 4.30) and non-technology-based SMEs' reliance on crowdfunding as a percentage of all funding (3.20%. *SD* = 1.46), $t(998) = 17.575$, $p < .001$. The likely meaning of this finding is that technology companies are more reliant on crowdfunding. The main finding for RQ2 was that there were several insignificant negative correlations between crowdfunding and other kinds of funding. The likely meaning of this finding is that crowdfunding is actively replacing other kinds of funding; companies that have a larger portion of their funding from crowdfunding have a smaller portion of funding from other kinds of funding. The main findings for RQ3 were as follows: (a) Crowdfunding is a niche, (b) crowdfunding has a limited future, and (c) crowdfunding is having and will have a limited impact on the funding market. The integrated meaning of these findings is that the potential impact on the traditional financing market of a shift in SME financing demand from financial institutions to crowdfunding platforms is small. The main findings for RQ4 were as follows: (a) The risks of crowdfunding are well-managed by regulation, (b) the risk of crowdfunding is not important from the perspective of systemic risk, and (c) the costs and benefits of crowdfunding can be understood through the prism of encouraging investment vs.

protecting investors. The integrated meaning of these findings is that there are in fact some regulatory gaps, but not gaps that are associated with high levels of risk.

The findings were examined in terms of game theory, de-risking, and financial inclusion. Game theory was utilized as a means of explaining how and why companies might prefer crowdfunding to other kinds of funding. De-risking and financial inclusion were utilized to explore the findings related to regulation. Companies were recommended to seek higher proportions of crowdfunding as a means of avoiding the equity demands that accompany traditional investment. Crowdfunding platforms were recommended to explore means of aggregating the investment power of their members into demands for equity.

ACKNOWLEDGMENT

I feel a great sense of fulfilment in the completion of this PhD thesis. Apart from being aligned with my interest in the field finance and investment, the study addresses my long running desire to produce a persuasive scholarly work on the innovative digital financial investment sector. In the midst of my excitement, however, I recognize that had it not been for the unwavering support of many people, I could not have completed this thesis in the depth and breadth it requires.

I have to thank Dr. Lumi Vasiu, Dean of Amity [in] London University, which introduced the cooperation between the University of Bolton as well as the Amity [in] London University. It was her commitment, which creates this great scientific community. It is her passion to enable young scientist to be able to investigate significant meaningful research topics.

Thank you

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1 CHAPTER INTRODUCTION

1.1 Background and context of the research

Small- and medium-sized enterprises (SMEs), defined as companies with no more than 250-500 employees and an annual turnover between 500.000 – 25.000.000 million EUR represent 99.8% of all European-based companies (Ridley, 2016). To put this figure in context, more than two-thirds of Europe's population are employed by an SME. In fact, SMEs are the main drivers of innovation and economic growth in Europe (European Commission Horizon 2020, 2018). Innovation is mainly propelled by cost-intensive projects and research. Therefore, SMEs require valid access to funding sources to undertake research and development programmes. That means that as regards research and development, an SME needs to be able to substitute its project engagement with debt capital provided by an intermediary. During normal cyclical market developments, the market regulates itself in such a way that the financing needs of SMEs can be covered by classical financing sources, such as loan stock, retained earnings, bank borrowing, government sources, business expansion scheme funds, venture capital, and franchising (Golić, 2014). The key point in this context is the term *normal cyclical development*. Since the banking crisis that started in 2007, the established and familiar market mechanisms no longer seem to be valid. This situation, coupled with a number of potential bank bankruptcies, leads to the realisation that the current structure of the banking industry permits banks to influence and endanger the entire finance system. The European Union (EU) has identified this as a systematic risk and intends to implement regulations which should not only protect investors but also reduce the complexity of bank products and thus lessen the potential risks.

While the main source of SME funding before the crisis starting in 2007 was a traditional loan issued by a bank, regulatory changes for banks have significantly reduced the availability of this kind of financing. Ridley (2016) has argued that this financing method is subject to a process of regulatory changes that influence a financial institution's lending policies. At the time, European politicians were seeking to reduce the default risk of traditional financial institutions and to strengthen their net equity base. As a result, the Basel III and MiFID/MiFIR regulations were adjusted, increasing the number of requirements for SMEs wanting to secure loans from financial institutions. From a bank's perspective, it is no longer attractive to provide SMEs with funding access because SMEs are often unable to offer adequate collateral and

securities in return. The EU has recognised this development and its impact on SMEs, and it intends to support SMEs' innovation efforts with various kinds of programmes and frameworks. In 2014, for example, the European Commission, as the highest organ of the EU, implemented a framework for innovation and research called Horizon 2020 (European Commission Horizon 2020, 2018). The aim was to maintain and protect the innovativeness and competitiveness of the entire EU. Horizon 2020 provides SMEs with access to funding from sources other than traditional banks. The OECD Centre for Entrepreneurship, SMEs, and Local Development explored this approach as well and published a consultation study describing the aforementioned paradox of development and proposing several new financing strategies for SMEs (European Commission Horizon 2020, 2018). Financing through governmental initiatives such as Horizon 2020 is limited in scale and unable to meet SMEs' demands for financing to support innovation and growth. Consequently, economic growth has slowed, and innovative developments are being launched more slowly. Those SMEs facing this situation must identify novel ways to finance new projects.

Golić (2014) has indicated that as a result of low interest rates, many enterprises are now interested in investing in SMEs, thus providing one potential new source of funding. As mentioned above, such investment has almost always been the basis for SMEs' innovation and growth. As a consequence, the market is witnessing the creation of a new funding industry. This sector is mainly driven by the Internet and is not dependent on traditional banks or banking products. The new funding sources include crowdfunding and peer-to-peer credit platforms, with *crowdfunding* defined as any attempt to simplify the access of ordinary individuals, not necessarily professional or experienced investors, to meeting a company's need for funding, often through the Internet and on the presumption of small investment sums (Hooghiemstra & De Buysere, 2016). Crowdfunding is one of the newest forms of innovative financing.

According to Hooghiemstra and De Buysere (2016), crowdfunding connects the demand and supply operations of SMEs with potential investors via the Internet. A significant difference from traditional bank funding is, according to Mitra and Gilbert (2014), that the intermediary (i.e., a crowdfunding platform) does not report the financing amount on its own balance sheet.

Figure 1 (see below) illustrates the role of banks in crowdfunding according to Haas et al. (2014). In this model, traditional banking services are limited to functioning as traditional payment transaction providers. In terms of crowdfunding, that means that a bank only processes the payment transaction from one account to another. The ordinary lending business is following this review by crowdfunding platform as an intermediary. In this context, financial institutions are not allowed to intervene in the process. In particular, a financial institution has no way of knowing whether a transaction is part of a financing request made by an SME via a crowdfunding platform. In such a situation, the financial institution is likewise no longer privy to the underlying business of such financing.

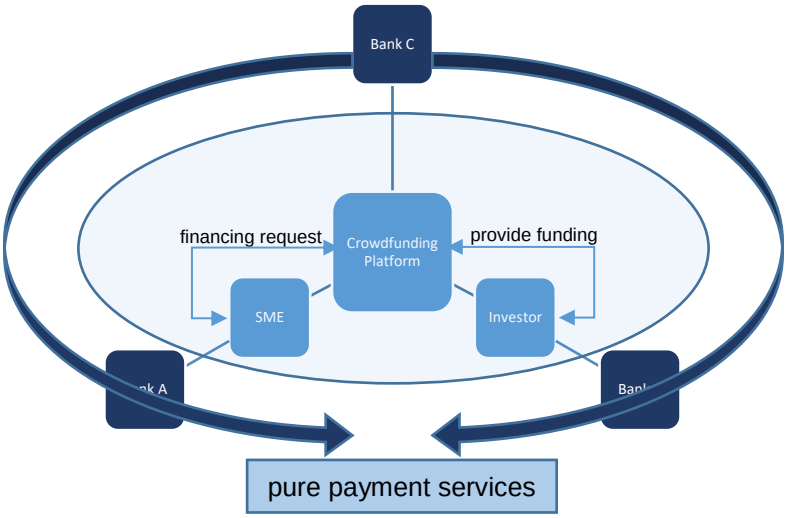

Figure 1: Crowdfunding platform mechanism and cash flows (source: Author)

Crowdfunding platforms (as shown in Figure 1) bundle groups of investors, potentially making it easy to generate larger amounts of funding when necessary. The literature mentions five general forms of crowdfunding: donation based, reward based, pre-selling based, lending based, and equity based (also known as *crowdinvesting*). According to Hemer et al. (2011), the main differences among these types of crowdfunding are characterised by the type of return on investment that the investor expects to receive.

Hemer et al. (2014) have stated that donation-based crowdfunding represents an investment on which the investor does not expect a return. Rather, the investment is made as a charitable donation. Reward-based crowdfunding is similar to donation-

based crowdfunding in that investors do not expect to receive a return on their investment. As noted by Hemer et al. (2014), these two types are risk neutral, whereas for the remaining three types of crowdfunding, investors expect to receive a return on their investment after a defined period. The conditions are usually established by the project initiator, in this case, the SME. A pre-selling-based project intends for backers to invest in researching, developing, and finalising a product which could be of interest to a potential investor. The return on investment in this case could be the opportunity to purchase the product at a heavily discounted price or to make it possible to develop such a product (Hemer et al., 2014). Belleflamme et al. (2014) have reported that for lending-based and equity-based crowdfunding projects, the investor always expects a monetary return on investment. With a lending-based crowdfunding project, backers invest money at a guaranteed interest rate and receive a defined continuous cash flow return. In equity-based crowdfunding, the investor receives a part of the company in equity shares; here, the return primarily depends on the success of the company. The difference between crowdfunding and shareholding is that the 'investment' is temporary. This means that, in crowdfunding, the 'contract' between the company and 'investor' lasts as long as it takes for the 'investor' to receive benefits for their investment, which is typically product. In shareholding, the investment is typically larger and the 'contract' lasts longer, yet results in a larger reward (Belleflamme et al., 2014).

These descriptions clearly illustrate that each type of crowdfunding has its own level of potential risk and return. Hemer et al. (2011) have identified these dependencies (see Figure 2); they have further reported that the types of crowdfunding have significantly different degrees of risk and complexity, as well as a correlated expectation on return on investment.

Figure 2: Crowdfunding risk and return chart (Source: Hemer et al., 2011)

Figure 2 also demonstrates that both the return expectations of investors and the related risks increase exponentially when investors expect to receive a monetary return. Investors are willing to invest a certain amount of money under self-specified conditions. That means that an investor defines the investment amount and conditions before participating in an investment project. In this case, the crowdfunding platform is merely the medium through which supply and demand are matched with financing. That means that the investor is aware of the risks before making an investment decision. Each investor also participates because of a specific motivation.

According to Haas et al. (2014), crowdfunding investors can be categorised into three theoretical intention types: hedonism, altruism, and for-profit. An investor motivated by hedonism is seeking innovation and creativity. With regards to the five types of crowdfunding, this type of investor is mainly interested in reward-based and pre-selling-based projects and is not focused on monetary return. The altruistic investor is motivated by the "greater good." The investor assumes that the investment constitutes a charitable donation; this approach is typically associated with donation-based crowdfunding.

Haas et al. (2014) have explained that with for-profit crowdfunding, the investor's motivation is the desire to receive a return on investment. This type of motivation is similar to lending-based and equity-based crowdfunding and is associated with the

highest levels of complexity, risk, and return. Such investors are well informed and highly interested in the success of the project (Haas et al., 2014). With this type of crowdfunding project, in addition to offering funding, investors often provide experience and other resources to support the project, to increase its likelihood of success, and to therefore increase their probability of receiving the expected return on investment. According to Schwienbacher and Larralde (2012), this type of involvement is more complex and has a higher cost structure. For instance, most crowdfunding platforms keep 10% of the financing amount. However, the rate of return is higher than that of a bank loan. The concrete relation depends on the form of the investment and the position of the SME. All relevant information is provided and published by the crowdfunding platform. The investor enjoys a high degree of transparency and direct communication access to the relevant persons involved in the project. However, the crowdfunding platform only acts as a non-regulated financial intermediary, and it has no responsibility to or dependency on the SME or financed project (Verstein, 2011). Although crowdfunding can be conducted in many different ways, one of the most popular is through the use of platforms. Reasons for using platforms are commonly associated with expense and ease of use. Moreover, the use of platforms allows for easier promotion and communication with the contributors.

With regard to the current market, crowdfunding is widely considered one of the most innovative forms of financing. In 2014, overall investment within this category totalled approximately €44 billion in Europe. In addition, crowdfunding's share of total investment volume in 2014 equalled €3 billion, or 6.8%. This statistic indicates its significance as a viable financing alternative. Figure 3 illustrates crowdfunding's presence in European countries in 2014 and hence serves as a first indicator of the strength and market share of this new industry. As can be observed, global crowdfunding activity increased more than tenfold between 2009 and 2014. This radical increase followed the market crisis of 2008, when SMEs began to seek financing outside of traditional bank markets.

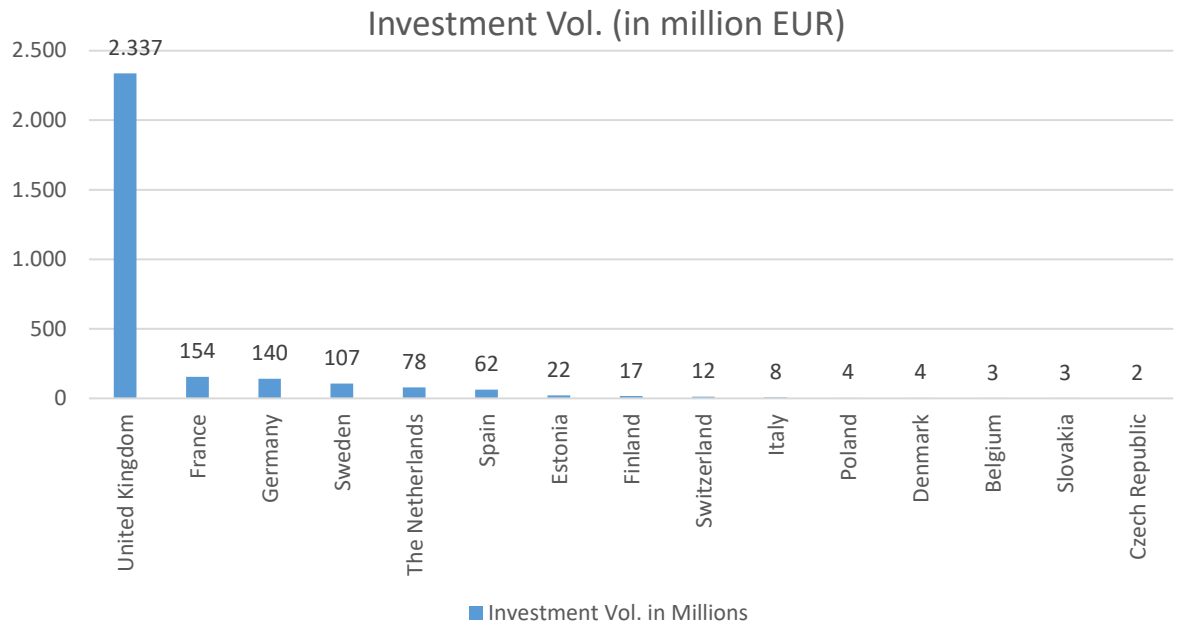

Figure 3: Crowdfunding investment volume in millions of euros (Source: StatiSta, 2016)

The above discussion highlights that the current market is in the midst of a significant change process. The digitalisation of products and services also functions as a kind of catalyst supporting this rapid change process.

The crowdfunding phenomenon is, from a scientific point of view, relatively new, so little discussion of and research about it has been recorded in the literature thus far. However, beginning in 2010, fundamental research discussions on the use of crowdfunding to close companies' financing gaps during the founding phases began to occur. Hemer et al. (2011) examined crowdfunding in terms of seed-stage and early-stage company financing. During these periods, it was not always possible to obtain financing from traditional banks, yet other options were available, such as crowdfunding.

With regard to Gerber et al. (2012), the first valid research in this context was conducted by evaluating interviews with crowdfunding investors and project initiators on a qualitative basis. The first quantitative research was conducted by Ahlers et al. (2013) after the first crowdfunding platforms were established in the United States. They based their analysis on the available transaction volumes published by the crowdfunding platforms. According to Ahlers et al. (2013), the existing literature mainly describes and evaluates the term *crowdfunding* and the mechanism itself. That body

of research offers no insight into the impact of crowdfunding on the existing financing environment for SMEs, nor does it describe the potential effect of crowdfunding on financial markets and potential changes in how SMEs and financial intermediates function in the market. This lack of research fuels the present study through showing the gap in existing literature.

1.2 Description of the research problem

The aforementioned forms of innovative finance instruments clearly indicate that the market has responded to fluctuations. For example, the economic recession gave rise to a non-regulated market with massive nominal potential that eventually came to challenge more traditional financial instruments. The previously mentioned growth rates for crowdfunding demonstrate that it is necessary to evaluate these developments from a research perspective. Furthermore, financial institutions and SMEs are strongly interested in gaining a valid scientific understanding of not only the potential impact of innovation on the funding market but also the newly emerging competition they pose to more traditional financial models (Blohm et al. 2014).

The new crowdfunding financing approach has heavily influenced the European financing market. According Blohm et al. (2014), the market will see exponential growth over the next seven years. The University of St. Gallen conducted a Delphi survey in 2014 that found that by 2020, global crowdfunding volume will total $35 billion. Compared with the overall investment volume of €44 billion in Europe in 2014, this represents a major increase expected to significantly affect the traditional financing industry.

The University of St. Gallen researchers assumed that in this context, this $35 billion will represent a market share of approximately 60%–80% of the profit-oriented financing industry. That would represent a fundamental change in the current financial market and its mechanisms. While banks and other financial institutions in Europe are regulated under the European Banking Authority, according to Rossi (2014), there are neither regulators nor regulations in place which cover this new financing sector. From a research perspective, there is a high information asymmetry between capital seekers and investors, financial institutions, and regulators. The market faces uncertainty regarding the regulatory treatment of crowdfunding, the currently unknown impact on

traditional financial institutions and their products and business strategies with regard to expected market share growth, and the expected changes in SMEs' balance and financing structures. Based on this information, the research problem under investigation is the lack of information regarding the impact of crowdfunding on traditional institutions, such as banks. This research problem is informed using game theory. Essentially, in relation to this study, game theory asserts that companies will secure financing using crowdfunding in order to reduce reliance on traditional financing through banks. This is based on the basic model of cooperative game theory, which asserts that joint actions by groups (companies) taken will result in collective payoffs. Therefore, the research problem, based in the context of cooperative game theory, is the exploration of the benefits of crowdfunding for companies, as compared to the need for traditional financing from banks.

1.3 Research aims

The author of this research project is a senior manager at Deloitte and leading the Capital Markets Transformation capability in Germany. In his professional function, the author explored that banks as well as SMEs has responded to funding fluctuations. For example, the economic recession gave rise to a non-regulated market with massive nominal potential that would challenge the more traditional financial instruments. The previously mentioned growth rates for crowdfunding clearly demonstrate that it is necessary to evaluate and investigate developments from a research perspective. Furthermore, financial institutions and SMEs are strongly invested in gaining a valid scientific understanding of the potential impact that crowdfunding can have on the funding market as well as the newly emerging competitive situation they offer to the more traditional financial models.

During the professional activities of the author, he had the chance to discuss the potential impact of crowdfunding with European Central Bank Innovation's Director Alexander Heist, which stated clear that there are no experience, key figures or valid evaluation studies with regarding a potential impact of crowdfunding on the banking and SME market.

The author was affected by the subprime crisis 2007, as his family loses a majority of its pension funding through the Lehmann default. This led not least to a stroke of his

mother. It is a passion for the author to ensure that potential systemic risks are at an early stage investigated academically and become transparent for the regulator.

Therefore, the main aim of this research is to describe the crowdfunding phenomenon in relation to its impact on classical financial institutions as a new and innovative source of SME financing. It will also investigate which financial authorities and regulations need to be considered and observe crowdfunding platforms as new financial intermediaries. In this context, the research will explain the relationships and differences between crowdfunding and financial-institution funding and evaluate the future role of financial institutions under consideration of the expected new allocation of market shares for crowdfunding platforms. In addition, the research will identify the regulatory gap and assess the potential default risk, which can be indicated by the potential assumed growth. The research will indicate and evaluate potential systematic risk related to such worldwide-allocated platforms and investors. The research project will be separated into the following research objectives and associated questions.
Objectives:

- Evaluation and determination of the importance of crowdfunding and crowdfunding platforms as financing alternatives for SMEs.
- Evaluation and determination of the potential impact on the traditional financing market caused by a shift in financing demand from financial institutions to crowdfunding platforms in terms of SME financing on the traditional business model.
- Identification and evaluation of potential regulatory gaps which are potentially leading to a systematic risk.

These objectives provided the basis for the research questions of the study. The research questions and hypotheses of the study are as follows,

RQ1: What is the percentage of crowdfunding in the overall funding of SMEs?

RQ2: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on other—that is, traditional—forms of financing?

RQ3: What is the potential impact on the traditional financing market of a shift in SME financing demand from financial institutions to crowdfunding platforms?

RQ4: In the context of crowdfunding, what are potential regulatory gaps that could lead to systematic risk?

This research project will close the existing gap in knowledge regarding the impact of crowdfunding as a source of funding, as compared to traditional funding by banks. This will be done through three major objectives. First, the study will investigate which financial authorities and regulations need to be considered in the guidance of crowdfunding, particularly in the treatment of crowdfunding platforms as new financial intermediaries. Thus, the study will explain the relationship that exists between crowdfunding and traditional financing (such as through banks) (addressed empirically in RQ2), explores the differences between the two models (crowdfunding and traditional financing), and evaluates the future role of financial institutions, such as banks, in light of the anticipated growth in the market share of crowdfunding platforms (addressed qualitatively in RQ3). In addition, the research identifies the regulatory gaps and assesses the potential default risk, which can be extrapolated based on the assumed growth rate. The study identifies and evaluates potential systematic risks related to global allocated crowdfunding platforms and investors. As the crowdfunding industry is innovative and new, it is necessary to set limits in terms of this research study. The following section outlines these boundaries.

1.4 Research limitations and boundaries

From a scientific perspective, crowdfunding as an innovative financing source is a relatively new phenomenon (Blohm et al., 2014). That means that valid scientific literature on the topic is limited. Limiting the scope of the research made it possible to generate valid results. In terms of the three main research objectives, the focus of the research was generally limited to the German market. That means the research was primarily centred on German crowdfunding platforms, SMEs, and regulations. Accordingly, the research only considered financial institutions involved in a business relationship with a German crowdfunding platform and or SME. The study identifies, evaluates, and explains the existing regulatory gaps as regards crowdfunding

platforms as innovative financial intermediaries. It does not offer specific recommendations regarding changes or the introduction of new regulations.

1.5 Contribution to knowledge

The knowledge gap being closed in the present study is regarding the impact of crowdfunding as a source of financing, as compared to traditional financing by banks. This research project closes this knowledge gap regarding financial institutions (banks), SME financing, and crowdfunding platforms as new and innovative financing intermediaries. The importance of this study will be also supported by the opinion of the German Regulator BaFin and the European Central Bank (Director Alexander Heisst, 2017). This research project suggests that it could significantly reduce future financial uncertainly for financial institutions and SMEs. From an economic perspective, the information provided in this study could be beneficial for financial institutions, such as banks, because they could explore synergies with innovative financing platforms. This study also validates anticipated regulatory treatments in this new area of financing through the explanation of how current regulations may not be adequate for crowdfunding, which is important because many countries tend to model regulatory frameworks from European countries.

It closes a significant knowledge gap, as it describes the fundamental function of crowdfunding platforms and their position in the market. In this regard, it may assist in reducing the uncertainty relating to financing regulations among the three market participants: SMEs, crowdfunding platforms, and traditional financial institutions, such as banks. There is a need for a deeper understanding of the new financing sources to prevent impacts to the economic environment. For example, in 2007, the world was impacted by the housing bust, leading to new financial regulations. Through understanding the new financing sources, it would be possible to update and implement regulations to assist in preventing such crises in the future. Moreover, the impact of crowdfunding may be another way that averse economic environments evolve if there are not sufficient regulations in place. Regulatory authorities can use this research to draft necessary regulations governing crowdfunding intermediaries. To that end, the study supports a deeper understanding of the further development of crowdfunding as an innovative financing source. While the main literature is not able to offer quantitative evidence on the development of the crowdfunding market in terms

of SME financing and the role of financial institutions, this study uses mixed quantitative-qualitative methods to contribute to different research streams and to reduce the aforementioned information asymmetry.

1.5.1 Literature review

Chapter 2 contains a critical literature review of the existing research on crowdfunding and crowdfunding platforms. It draws on multiple sources, including peer-reviewed journals, books, relevant conference studies, published introductions, case studies, and white study. Bachman et al. (2011) conducted one of two significant literature reviews regarding crowdfunding and crowdfunding platforms. They evaluated 43 peer-to-peer lending-based scientific articles, which are also considered in this research project. Feller et al. (2013) conducted a quantitative literature review to assess the general growth of the crowdfunding market; that work is also considered in this research. The following criteria were used to select works to include:

- The work needed to be a scientific or practice-based contribution, article, journal, book, or seminar study.
- The main topic needed to be a crowdfunding platform or a related capital-seeking SME or investor.

Following this, the research mainly considered economics studies, except bachelor's or master's dissertations. Literature was sought through the following academic databases: Google Scholar, JSTOR, Business Source Complete, Academic Search Premier, Econlit, Emerald, Science Direct, Web of Science. In each of these databases, the following searchers were undertaken:

- "Crowdfunding" AND "financing" AND "small business"
- "Crowdfunding" AND "financing" AND "mid-sized business"
- "Crowdfunding" AND "financing" AND "SME"
- "Crowdfunding" AND "financing" AND "SMB"

Abstracts for all relevant articles were read, and the works chosen for inclusion in the literature review conformed with the inclusion criteria listed above.

This chapter reviews the key elements which lay a foundation for crowdfunding and crowdfunding platforms. It highlights recent developments within the financial and crowdfunding industry landscape with regards to SME financing through a critical review of relevant theories and frameworks. In addition, the literature review creates a

basis for identifying gaps in the SME crowdfunding literature. This chapter concludes by formulating concrete research questions to address these gaps and the challenges within the crowdfunding market.

1.5.2 Research methodology, paradigm, and design

Chapter 3 contains the research methodology, paradigm, and design, and provides a review of various philosophical approaches and components within the business and management research domain. It further describes how quantitative and qualitative methods in terms of a triangulation approach were used to answer the research questions. In addition, it outlines the research paradigm, a term Kuhn (1962) defined as “the set of practices that define a scientific discipline during a particular period of time”. Easterby-Smith, Thorpe, and Jackson (2012) have mentioned that the research paradigm is mainly determined based on researcher’s methodological, epistemological, and ontological premises that guide and influence the research. According to Denzin and Lincoln (2005), the researcher approaches the research project with an established set of ideas (ontology), which determine a set of questions (epistemology) and thus help to shape the research instruments used to investigate the research problem in a specific way (methodology).

1.5.3 Analysis and findings

Chapter 4 presents the analysis and findings. It describes in detail the analytical approaches, which were based on the reviewed literature, used to describe the scientific meaning of the evaluated data.

The data on the first two research objectives were analysed via a quantitative regression analysis (i.e., correlation analysis). It was assumed that an increased funding debt base for SMEs would mean funding had been issued by financial institutions or other financial intermediaries such as crowdfunding platforms. Additionally, the identification of a general increase in financing and investment activity for SMEs, reduced loan issuance activity among financial institutions, and increased sales volume for innovative financing platforms was assumed to point to a negative correlation over time. The related regression analysis was based on the equation formulated by Rajan and Zinglas (2003), as cited in Motamen-Samadian (2005).

The chapter also contains the evaluation of the SME survey. The survey answers were used to assess a potential causal correlation of the funding shifts from financial institutions to crowdfunding platforms in terms of SME financing. With regards to existing British financing regulations, this chapter identifies regulatory gaps and related risks for financial authorities, SMEs, and financial institutions.

1.5.4 Discussion

Chapter 5 provides information regarding the results of the analysis based on theory. The chapter also briefly describes the outcomes of the methodologies.

1.5.5 Conclusion and directions for further research

Chapter 6 presents the conclusions and their implications; it begins with a discussion of the three main objectives and their scientific implications. It briefly discusses the applied theoretical approaches and collected data. This is followed by a conclusion and an explanation regarding how the outcomes contribute to the theoretical and practical knowledge bases. Next, the validity of the research findings is discussed, and a description on the limitations of the study follows. Finally, Chapter 6 ends by recommending directions for further research.

2 CHAPTER LITERATURE REVIEW

2.1 Introduction

Much has been written about funding for SMEs. These businesses can at times struggle to attract funding from traditional sources, including banks and private equity firms, because they present several risks and also lack connections to those funding sources. Filling in the gap for SMEs is crowdfunding, a unique concept that allows anyone to provide funding for a small but innovative idea. Crowdfunding is truly an idea birthed on the Internet, as online portals make it much easier for people to connect to one another in this way. Crowdfunding of SMEs has been particularly popular in Germany, where companies have been able to leverage their missions and growth potential to attract smaller investments from people interested in accessing that upside or contributing to that mission. A number of studies have been written on this topic, but there is much more to contribute (Klafft 2008). This literature review seeks to fill the gap in the literature regarding the impact of crowdfunding as a source of financing, as compared to traditional financing by banks, by providing a clearer picture of current innovations regarding SME crowdfunding, with a specific focus on Germany.

2.2 Early development of crowdfunding research

The term *crowdfunding* is relatively new, although the concept has existed for much longer. With this in mind, readers should note that former names for what is now considered crowdfunding include *peer-to-peer lending* and *social lending*. These concepts differ in some ways from crowdfunding as currently constituted, but they helped to establish crowdfunding in its current form.

Iyer, Khwaja, Luttmer, and Shue (2009) wrote an early study on the availability of peer-to-peer lending for businesses that lack others means of funding. Importantly, these authors focused on the peer-to-peer model in part because there was a lack of understanding of crowdfunding's comprehensive nature (Hemingway and Hoffman 2010). While their focus was on the extent to which individuals could trust the creditworthiness of those they lent to, the overall tone made clear that peer-to-peer funding was, at that time, seen as something less than a full solution. It was instead perceived as a small-scale funding vehicle that could be utilised to fill in holes, not as a fully developed means of widescale funding for businesses at large. Klafft (2008) wrote about peer-to-peer lending early on in the process, and in his work, one can see

what the early market looked like. Around 2008, peer-to-peer lending was seen primarily as a vehicle for funding through which businesses and lenders could avoid the high costs associated with traditional finance. In addition, the author wrote about peer-to-peer lending as a platform that was not ideal for legitimate parties, calling it an option best used by parties that were not legitimate. The author deemed lenders and other parties participating in peer-to-peer transactions “inexperienced”, signalling that the approach was not yet perceived a legitimate form of widespread business funding. During the early years, the literature portrayed peer-to-peer funding as a niche model plagued by several problems. Rather than focusing on the opportunities presented by such a force, the literature emphasised the litany of problems as well as the relatively narrow class of parties that might be involved in such a transaction (Hemingway and Hoffman 2010).

There have long been complex rules governing the funding of businesses in both Germany and the United States. In some cases, investors need to be accredited, and there are net worth requirements in other instances. With this in mind, some of the first foundational writings on crowdfunding for businesses covered the important legal topics surrounding the practice. Hemingway and Hoffman (2010) explored the law to see whether crowdfunding was even legal and questioned whether a regulatory structure would be put into place to limit the practice in the near term. Hemingway and Hoffman wrote at length about the fact that the crowdfunding movement in the United States ran afoul of the Securities Act of 1933, a law designed during the New Deal era making it more difficult for businesses to raise capital any old way. Their focus was on both those lending capital and those receiving it; they cautioned that the practice could be ended. In particular, the authors wondered whether companies that had received capital in this way would face heavy fines and potential shutdown. Pope (2010) took a similar stance, although he used the rise of crowdfunding to suggest that it was time to extend the opportunity to smaller public offerings. Pope’s point was that the current rules benefitted only large, rich institutional investors and allowed only large and wealthy companies to benefit from the public’s desire to put their money to work. The author used the movement towards crowdfunding to suggest that the regulatory scheme covering business funding in general was oppressing those who were not wealthy and well connected (Hemer 2011).

After a sufficient focus had been placed on this particular element of the crowdfunding phenomenon, others began to cover further elements of this trend. Specifically, authors started writing about how crowdfunding worked and different means of facilitating crowdfunding. More empirical studies, both quantitative and qualitative in nature, emerged and weighed in on whether this new trend would be sustainable and whether it was even proving successful at helping people. Hemer (2011) provided a snapshot of crowdfunding in Germany, illustrating that it had gained popularity and that many crowdfunding markets were running without excessive problems. Importantly, Hemer wrote that crowdfunding was still new and unfamiliar to some, so it had become widespread and popular only among true innovators in the marketplace. Also writing in 2011, Agrawal et al. (2011) reported that crowdfunding was enjoying much more success in Germany and the United States than elsewhere in the world. The authors stated that crowdfunding was more popular in these countries in part because of its informality, which matched the aggressive German and American business cultures. By contrast, crowdfunding did not seem to work well in Asian markets, where many develop relationships for funding based on own personal interactions, rather than dealings with strangers over the Internet. This study focusing on geography helped to demonstrate that the world was undergoing a shift and that states were divided regarding the acceptability of crowdfunding as a means of funding businesses (Hollow 2013).

Discussions on crowdfunding eventually moved to more specific inquiries. Crowdfunding being fully accepted in many of the largest markets around the world, these new inquiries have been more interesting and seek to shine a light on the practices undertaken by entrepreneurs around the world. For example, recent research has focused on topics such as determinants of crowdfunding sourcing across Germany (Dushnitsky et al 2016) and the compatibility of crowdfunding and civic society across Europe (Hollow 2013). The shift in the conversation on crowdfunding and the more specific questions underscore the important changes that have taken place in such a short period of time. In less than a decade, the literature has evolved from not even referring to the practice by its currently accepted name to asking simple questions about the legality of the practice to investigating the specifics of why and how the practice has emerged across Europe. Examining the development of the literature on

the topic can lead to a firmer understanding of how crowdfunding has evolved across Germany over the last few years (Hollow 2013).

2.3 The literature on capital seekers

One can categorise the literature according to many different classifications, but when discussing innovation in SME crowdfunding in Germany, an important distinction is whether the literature is dealing with those offering capital or those seeking capital. People in these two groups work together, and though their interests are in many ways aligned, there are several ways in which the experience differs for the two actors (Brown et al 2017). The literature on SME crowdfunding in the German context is extremely limited, suggesting that researchers either do not believe that crowdfunding is a sufficiently important or interesting funding source or that crowdfunding, as a phenomenon, is not well-known to academic researchers in the field. Brüntje and Gajda (2015) provided one of the few discussions of SME crowdfunding in Germany, which was limited in its empirical dimensions.

2.4 Importance of crowdfunding for SMEs

According to Brüntje and Gajda (2015), companies seeking crowdfunding in Germany cannot be placed within single categories. Most have multiple motivations for seeking this type of financing. Their book, while exploring crowdfunding in a general way to shed light on these multiple motivations, notes that some companies consider crowdfunding because they cannot access funding elsewhere. Others do so because they think it is the best way to avoid the bureaucratic hassle involved in seeking funding from other sources. Schmitz (2016) has described the problems faced by SMEs as follows: “In particular, a high risk of failure deters many external financiers from providing a young venture in their infancy with monetary amounts. A further problem becomes evident when comparing start-ups with established or even publicly-held companies. Due to the obligation to publicly disclose results, commercial and non-commercial investors can obtain detailed information about listed firms with minimal effort. However, detailed information about a start-up and its core business is hardly accessible.” It seems that SMEs are risky ventures for backers, and this also creates problems when it comes to obtaining appropriate funding. Because they are perceived as highly risky, SMEs are avoided by many traditional funding sources; these actors prefer more stable investments. This author suggests, then, that it is the very nature of

SMEs in Germany that causes them to seek more innovative funding sources and that that eventually leads them to crowdfunding (Brüntje and Gajda 2015).

One of the motivations for companies to seek funding in this way stems from the desire to have more people engaged and involved (Hossain & Oparaocha 2017). Honisch and Ottenbacher (2016) have written about this in the context of restaurants in Germany. These businesses are among the SMEs that have been most likely to embrace this kind of funding when they first begin operating. As the authors have noted, crowdfunding gives them the momentum they need during this initial stage. Many businesses face a dual challenge when they are first starting out. Finding funding is only the first step. A company also must attract attention in order to move forward. By relying on crowdfunding, these German restaurants have been able to not only attract attention and engagement early on but also to access the money that is so desperately needed to begin operating. While some forms of funding, including venture capital, are all about acquiring cash to position the company for long-term success, German companies that turn to crowdfunding are also seeking to use the funding period as a springboard to greater success (Brown et al 2017). Crowdfunding is different from traditional funding in that it provides investors with a real opportunity to get involved in a business and to generate excitement. Simply put, a crowdfunding campaign is fundamentally different than requesting money from a venture capitalist for an idea. Rather, it has to be understood as similar to a major social marketing campaign; the concept of getting people involved and engaged has its own value for any business hoping to grow rapidly (Hossain & Oparaocha 2017).

Brown et al. (2017) have reported that crowdfunding comes from a place of marketing. When these authors broke down crowdfunding campaigns across Germany, they found that although there seemed to be many other reasons why people chose that direction, one primary factor was the desire to market their products. This makes sense, of course, because of the attention that many companies have received from these campaigns. Unless a company is going on a television show to seek funding from venture capitalists and angel investors, much of that activity takes place behind the scenes, a point that is also made by Hossain and Oparaocha (2017) and Honisch and Ottenbacher (2016). The founders talk to important people, solicit feedback on their ideas, and close a deal. The parties sign a contract, a sizable check is written,

and the money is paid back to the investor. These actions take place without many people even being aware of them. It does not represent something that brings value to the company unless it is in the news, and even then, in Germany, the financial page is not something the average consumer reads, or even cares much about. What must be noted, then, is the way in which crowdfunding can sometimes go viral (Brown et al. 2017; Gierczak et al. 2016; Honisch & Ottenbacher 2016; Hossain & Oparaocha 2017). It can achieve goals that a standard funding campaign could never realise, such as by bringing positive attention to how a company is willing to challenge norms and bring outsiders into the fold.

Crowdfunding is also one of the best types of marketing (Brown et al. 2017; Gierczak et al. 2016; Honisch & Ottenbacher 2016; Hossain & Oparaocha 2017). It helps to build the brand of a company by demonstrating to the public that the company wants to be involved in the community and by soliciting input from consumers. In an era when companies are using tools like Twitter to relate to customers and handle customer service problems, it makes sense that a firm would want to use its crowdfunding campaign to illustrate that it cares about public feedback so much that it wants to bring members of the public into the fold to invest in its idea (Gierczak et al. 2016). The marketing value ensures that when the campaign is over, the company is left with much more than just money. It finishes the campaign with brand awareness and an enhanced reputation based on its willingness to step outside of the box and to challenge industry and business norms. Some have noted that it is almost impossible to put a dollar amount on how important it is for companies to appear “cool”. Crowdfunding is an effective way to ensure that a company enjoys that reputation (Gierczak et al. 2016).

Gierczak et al. (2016) have reported that crowdfunding has been sparked to life in part by the desire to get lots of little bites to build the bigger structure. Having many different people involved in the funding process distributes ownership among many. This approach can result in those people numbering among the most fervent supporters of an idea. Researchers have long reported that the best way to improve engagement among employees is to ensure that they enjoy some degree of ownership. Whether this is actual ownership of the company or simply a sense of ownership, the ultimate idea is that when people feel invested in this way, they are more likely to work hard to push a product, service, or company. Crowdfunding motivation, then, can be

understood to reflect, at least in part, a company's desire to begin its life with the support of those people who feel legitimate ownership (Wolf & Kraemer 2015). Guerzoni et al. (2016) have written that in countries with struggling economies, crowdfunding has been a popular option for companies that might have otherwise struggled to finance their ventures. The authors studied Italy and found many examples of people who enjoyed giving to crowdfunding campaigns. While the authors did take a dive into the reasons why people enjoyed being a part of these movements, one of the more interesting takeaways regarded why companies in places like Italy have been seeking this kind of funding (Marchegiani 2017). They found that entrepreneurs in these places were able to take advantage of a sense of national pride. These individuals were looking for legitimacy and authenticity, rather than the same and economies run in the same old ways. With this in mind, the companies seeking funding wanted to take advantage of countrywide trends that were already in place and that seemed generally favourable to their operations. Marchegiani (2017) have linked this trend to mercantilism, noting a long tradition of national momentum when it comes to these ideas. Smart merchants during the Middle Ages and the Age of Exploration were able to leverage this power into funding for their ideas, and it may be that modern businesses across Germany are simply relying on an updated version of that same concept to obtain funding.

Lasrado and Lugmayr (2013) brought to bear an important point when addressing the critical question of why some companies pick crowdfunding rather than another option. In particular, these authors studied a number of businesses in Finland and concluded that one reason people in positions of business power often select crowdfunding is that they are trying to undertake an insurgent mission. There is a near-obsession among some business founders today about being an insurgent company (Gierczak et al. 2016). They want to be an Amazon or Uber, disrupting their industries with new technologies, new processes, and new ways of thinking. This is in line with much of the literature on how to start a successful new business. In some cases, the focus on being disruptive allows a company to envision new ways of doing business that allow it to compete with larger firms (Angerer et al. 2017; Lasrado & Lugmayr 2013; Marchegiani 2017). A company's success in this regard can mean the difference between attracting more customers and being yet another business relying on old tactics in a tired market. When business owners are consumed with the idea of being

disruptive, they often want to do everything differently (Marchegiani 2017): This is where crowdfunding comes into play. Above all else, crowdfunding has proven itself to be new and different. It is challenging and disruptive in ways that all companies hope to be when they enter the market. If a company is trying to be disruptive in general, it makes sense that it might select a disruptive mechanism as well. Hence, in part, crowdfunding is about the culture of the company that is seeking the funding (Angerer et al. 2017; Lasrado & Lugmayr 2013; Marchegiani 2017). The firms want to ensure that it is building that culture from the ground up in a way that suggests to employees and the public that it is different. Angerer et al. (2017) have suggested that something similar is taking place among German businesses. Long a country obsessed with the proper procedures and the most effective ways of doing business, Germany has sparked an insurgent culture wherein many businesses are seeking to shake up industries with new and innovative technologies. Those companies are more willing to start in less traditional ways to signal in a tangible way that they are not just like every other company. They are instead in the market to introduce new approaches and more efficient ideas (Angerer et al. 2017).

Polzin et al. (2017) have written that another major motivation for companies that seek out this kind of funding is that they want to take advantage of the so-called “wisdom of the market”. These authors have suggested that German crowdfunding is similar to a betting market in certain ways. It becomes efficient because people have a degree of wisdom. They invest in those ideas that work and do their best to avoid fewer promising options. This is difficult to behold because in a way, it puts the company’s future in the hands of random outsiders. Many businesses, however, grasp that they will be doing exactly that when they release products and services into the market. The crowdfunding period, then, is almost a test run to allow them to perfect their products and services before that fateful moment (Brown et al. 2017; Gierczak et al. 2016; Honisch & Ottenbacher 2016; Hossain & Oparaocha 2017). If people do not like an idea, then they are not likely to invest in it (Marchegiani 2017). The company receives instant feedback, learning that it has made a mistake regarding, for example, its investor pitch, the product itself, or even the understanding of the market. This motivation might be called the “test balloon” theory. Crowdfunding becomes more than just a way that companies can obtain money to scale their operations and grow. Rather, crowdfunding can be a way to tap into the collective wisdom of the public

through an efficient investor market to determine whether an idea is promising (Brown et al. 2017; Gierczak et al. 2016; Honisch & Ottenbacher 2016; Hossain & Oparaocha 2017). If a firm does not get the response it is looking for, it still will have information more valuable than almost anything else it might be able to acquire (Marchegiani 2017). It can then make the necessary adjustments and try again. This trial run saves the company from the hardship it might have faced if it had obtained funding from traditional sources before entering the market with a product or business idea destined to be rejected wholesale (Brown et al. 2017; Gierczak et al. 2016; Honisch & Ottenbacher 2016; Hossain & Oparaocha 2017).

Previati (2015) agreed so much with the hypothesis that businesses were interested in crowdfunding because of the desire to take advantage of the efficiency and wisdom of the market that the author argued that this model could provide an antidote to the credit crunch. During the years that followed the economic downturn in Germany, banks and traditional lenders were simply not letting businesses, and especially SMEs, access the money they needed to get off the ground. In a sense, this was a sensible decision on the part of the banks and venture capitalists, as they had to tighten things up to mitigate risk during a time of uncertainty, but it produced innovation on the funding side (Marchegiani 2017). If banks and venture capitalists were not going to provide access to money, perhaps they were erring on the side of being too careful. While one might assume that banks and other financial institutions know best in terms of where to put their money, Previati (2015) and others (Brown et al. 2017; Gierczak et al. 2016; Honisch & Ottenbacher 2016; Hossain & Oparaocha 2017) have written that the market itself tends to have the best idea of what ideas might succeed. Supporters of this idea see this as a market correction of sorts. While the credit markets tightened restrictions because of excessive risk aversion, the authors argued that crowdfunding arose in response. Crowdfunding emerged to give the market a chance to weigh in. Individuals could determine an efficient amount of risk, and the resultant approach was even more efficient than the model large lenders and traditional funding sources were using at that time.

Wahjono and Marina (2017) have reported that to move researchers' attention away from white-centric and Judeo-Christian businesses. There is a tendency when examining situations like this to view them from an ethnocentric perspective. There is

a tendency towards erasure as well, and the stories of those practicing different religions and bound by their doctrines regarding how to conduct their operations—including fundraising—are often overlooked. Importantly, there are many SME owners and operators in Germany who adhere to the Muslim faith. Islam places certain restrictions on funding from banks and the like. For them, crowdfunding has been an alternative allowing them to become involved in the world of entrepreneurship while still staying within the banks of their religious tradition. One should not forget that for many, crowdfunding has been a lifeline that has allowed them to participate in the business world without having to compromise on their values. (Previati 2015).

This speaks also to a broader point about the availability of funding. While most SME owners and founders are able to access funding from traditional sources according to their religious traditions, there are other reasons why these institutions may close their doors to people seeking funding (Previati, 2015; Vedantam, 2015). In most cases, the central motivation for business owners to use crowdfunding rather than a traditional bank loan or venture capital funding is that they cannot access those traditional sources (Previati 2015). This has become even more true over time due to certain changes in the Germany credit markets since the crash and the slower-than-expected recovery from that crash. While this has held true for some markets more than for others, with Greece being especially problematic, it has truly been the case in almost every German market to this point.

Vedantam (2015) conducted work on this topic and brought to bear the idea that one of the top factors prompting companies to seek crowdfunding is the presence of too many warts to be accepted by more traditional sources of funding. This author suggested that the problem may be not only that the risk profile of the SME deters traditional funding sources but also that certain products and causes are less likely to catch the eye of traditional funders. In the modern world, and especially across Germany and the United States, there are many businesses that may intentionally limit their own upside to make a positive contribution to the world beyond that represented by their products and services (Previati 2015; Vedantam 2015). This movement towards extreme social corporate responsibility has been difficult for the traditional financing world to adjust to, as these institutions have sometimes been disinterested in those businesses not seeking to maximise growth at every turn. However, those

businesses that may not utilise a traditional approach point to a need for alternative and even innovative funding. It is an issue of need, and the development of non-traditional financing came about through expediency (Previati 2015; Vedantam 2015).

Hornuf and Schwienbacher (2014) drew a direct link between the financial collapse of 2008/2009 and the need for more crowdfunding and crowdinvesting in Germany. They noted that firms that might have previously been able to rely on banks for debt funding have not been finding favour with those banks; what is more, companies that would have had an easy time tapping into equity financing started struggling in that domain following the financial collapse. The authors suggested strongly that there is a critical issue of need at play when it comes to why firms are willing to turn to crowdfunding during their early stages. Rossi (2014) has noted that because there are fewer rules for firms that seek crowdfunding than for those relying on traditional financing, crowdfunding is a much easier path for firms that might have otherwise been barred from the market for not having the structures needed to access that higher-end financing. A firm may need a high-powered team of lawyers and industry relationships to be able to access bank and venture capital financing. Many firms, however, only have an idea for a product or service, and a desire to grow (Brown et al. 2017; Gierczak et al. 2016; Honisch & Ottenbacher 2016; Hossain & Oparaocha 2017; Kim & Moor 2017). They have the tools needed to be successful, but they lack the front-end tools required to access traditional funding. These are the firms that are able to use crowdfunding successfully; the lack of rules and regulations makes it simpler for firms that do not have full legal teams and other compliance offers (Rossi 2014).

Kim and Moor (2017) have noted that tech firms have been especially likely to seek this kind of funding, in part because they are more likely to want to move fast when they have an idea worth pursuing. Ultimately, the world of traditional finance moves slowly. Venture capitalists take a long time to conduct due diligence and to learn about a company. At the same time, banks are notoriously slow regarding not only their decision-making but also the layers of red tape one may need to cut through. Simply put, many rapidly growing and quickly moving tech companies that use the new types of financing change rapidly and need to grow quickly (Brown et al. 2017; Gierczak et al. 2016; Honisch & Ottenbacher 2016; Hossain & Oparaocha 2017; Kim & Moor 2017). They may need to get a new technology or programme to the market in a matter of

weeks, not months, to meet a consumer need or to perhaps capitalise on an ephemeral trend. When traditional financing mechanisms are too slow to help them, their options become limited. Crowdfunding, however, gives them the ability to move more quickly without the hassle associated with a traditional financing market (Brown et al. 2017; Gierczak et al. 2016; Honisch & Ottenbacher 2016; Hossain & Oparaocha 2017; Kim & Moor 2017; Previati 2015; Vedantam 2015). This need for speed illustrates that there are multiple motivations at any given time for firms that engage in this business. In some cases, the tech firms that are financed through crowdfunding might have been destined to become tech unicorns with $1 billion valuations and little trouble obtaining necessary financing from traditional funding source. The difference is that they needed to move more quickly than the traditional sources were willing, and this caused them to seek forms of funding more suited to their particular needs (Rossi 2014).

Jegeleviciute and Valanciene (2014) are among the many authors who have written about another factor that motivates firms to seek such funding: issues regarding valuation in traditional funding markets. At the heart of venture capital funding is the idea that a company should have a specific value, usually four or five times its yearly revenue, that then leads to an investment for a certain level of equity. This is difficult because not all companies operate in this way. There are some companies that have values that the owners believe are higher than the standard revenue model might suggest. There are many reasons this might be the case. For instance, a company might be anticipating rapid growth in a year or two that would make its valuation far too low. According to some authors, this might make companies more apt to try to sell their outlook to the market at large than to attempt to entice venture capitalists likely to be sceptical of any request to deviate from standard valuation models. Beyond that, a company might have valuable intellectual property that should be pushing its value higher, and it may not believe that traditional funding sources would value that intellectual property correctly. In short, when valuation issue exists, the core is companies' belief that the market itself will value them more than venture capitalists would (Rossi 2014).

This is a risk, however, because in some cases, the elements that make the company more valuable are too complex to explain in a compelling way to average investors; such a discussion might be better suited for a presentation to savvy venture capitalists

(Lehner 2013). Nonetheless, many owners perceive this as a risk worth taking and view crowdfunding as an opportunity to protect their equity from venture capitalists desiring to take advantage of their situation. Lehner (2013) has written that although venture capitalists are slowly warming to the trending idea of firms being more valuable if they can tap into consumers' desire for more companies trying to create positive change, these venture capitalists are still likely to undervalue such companies. This reality is something that company founders are conscious of, and so they might believe that the public will value their company's efforts to improve the world more than a venture capitalist might. This could be a motivation to seek non-traditional funding.

2.5 Motivation of crowdfunding for SMEs

Andersen and Mauritzen (2016) have reported that it is sometimes better for companies to choose online crowdfunding rather than traditional financing when domestic interest rates are high. Interest rates can be quite volatile, differing from bank to bank and depending on the country's economy. In the United States, interest rates have been kept low since the economic collapse because those in charge of fiscal policy have been operating on the belief that low interest rates will encourage economic growth. This has, in turn, led to the greater availability of credit at reasonable rates. For this reason, the United States has not seen crowdfunding become quite as popular as in Germany. As Andersen and Mauritzen (2016) have explained, the rising interest rates in many Germany countries have led company founders to opt not to seek a bank loan; that option might drain money out of the company without providing the boost that comes from having an investor pushing the firm. This means that motivation differs on a case by case basis; firms consider the numbers, the interest rates, and the alternatives that could allow them to better position themselves to move forward (Lehner 2013).

At least some studies (Cholakova and Clarysse 2015; Mauritzen 2016) have demonstrated that one of the primary reasons companies seek crowdfunding is the desire to protect their equity. It bears mentioning at this point that the literature does not claim that all forms of crowdfunding are created equally. Some ventures provide equity to investors. Others provide incentives or rewards (Mauritzen 2016). For those ventures that raise small amounts of money from many different people, it is often not ownership in the company that is provided, but a place on an advisory board, a special

experience not available to the general public, or even a basic prize (Cholakova and Clarysse 2015; Mauritzen 2016). Certain companies, for instance, provide naming opportunities. Restaurants have offered people a chance to name an item on their menu. Other SMEs have offered investors the opportunity to name a room in their building. Cholakova and Clarysse (2015) have reported that even though a number of crowdfunding campaigns offer equity, the majority are still reward based. Business founders rely on this approach to obtain the cash they need while still retaining equity (Cholakova and Clarysse 2015; Mauritzen 2016).

For many business founders, maintaining equity is sacrosanct (Cholakova and Clarysse 2015; Mauritzen 2016). They want to keep as much ownership in the company as possible because, throughout Germany, the main reason people start businesses is their desire to later sell the business and earn a profit from that sale. If they begin to give away equity, they will quickly find themselves in a position where selling the company would not lead to the desired profit (Lehner 2013).

While debt financing is also a way to obtain business funding without having to give up equity, it entails certain conditions, including the fact that in many cases, the bank effectively owns the company and can encumber it in myriad ways if things go wrong Hervé et al. (2016).

Banks do not provide the boost that investors do, and moreover, they can drain money out of a growing company that needs to keep its cash flow high when just starting out. Crowdfunding can be a way for company founders to obtain the cash and boost they need without the need to face the significant problems associated with traditional investing. Namely, they get to keep all the valuable equity that they have built up in the company (Hervé et al. 2016).

Hervé et al. (2016) have noted that one of the top motivations of people who invest in these campaigns is the desire to feel involved in something larger than themselves. With this in mind, the motivation for the business owners is to give these investors what they want while keeping that which is most important in their own eyes, namely, the stake in the company. A venture capitalist or bank would have other concerns and considerations not aligned with the founder's ultimate interest in keeping firm control

of the company's value in the hopes of profiting later (Cholakova and Clarysse 2015; Herve et al. 2016; Mauritzen 2016).

The foregoing discussion of the importance of crowdfunding can be considered in light of the first research question of the study, which is as follows: What is the percentage of crowdfunding in the overall funding of SMEs? Although the importance of crowdfunding to SMEs has been discussed from numerous conceptual perspectives, there do not appear to be previous studies in which the percentage of crowdfunding among SMEs has been quantified for a large (n > 100) sample of companies.

Conceptually, one of the common themes in the literature on the importance of crowdfunding to SMEs is that of cooperative game theory. Given that companies have a vested interest in maintaining equity (Cholakova and Clarysse 2015; Mauritzen 2016), the importance of crowdfunding to SMEs can be described in terms of retaining equity. Because crowdfunding depends on numerous, small investments, no single investor has the ability to apply competitive game-theory dynamics in order to demand equity in return for investment (Andersen & Mauritzen, 2016). Thus, crowdfunding is particularly attractive to SMEs, but the importance of crowdfunding has not been quantified in terms of how much SME funding actually comes from crowdfunding.

2.6 Crowdfunding success and impact on shift in financing demand

Many studies (Cholakova and Clarysse 2015; Herve et al. 2016; Marelli & Ordanini 2016; Mauritzen 2016) on people seeking funding have examined the various factors that help to determine whether a campaign is successful. It should be noted that some crowdfunding campaigns are successful while some are not. Simply put, there are variables one can consider predicting whether a company will run a successful campaign. While these indicators are not perfect predictors, and while there are certainly exceptions to every rule, these criteria are generally useful and must be understood by companies seeking funding (Cholakova and Clarysse 2015).

Marelli and Ordanini (2016) have named two factors that have made German crowdfunding campaigns successful for SMEs. First, the ability to provide people with incentives to support a campaign early on has been a primary indicator of a campaign's success. This indicates that there needs to be momentum for a campaign to succeed.

Without enough momentum, a campaign has very little chance of getting off the ground. In order to generate this momentum, the campaign must attract people at the beginning. For those willing to give away equity via their crowdfunding campaign, an early incentive is an effective way to start the campaign (Lukkarinen et al. 2016). For those only distributing rewards, it is critical to offer the most enticing rewards to early supporters. In addition, the authors have suggested that founders who are actually active in the marketplace for funding are more likely to be funded themselves. In a sense, this finding portrays crowdfunding as community based and cooperative. If people are supporting one another, then they are likely to get engagement with their own SME on the back end (Cholakova and Clarysse 2015; Herve et al. 2016; Marelli & Ordanini 2016; Mauritzen 2016). This path to success is certainly very different than that associated with traditional funding. In traditional funding circles, the company's fundamentals and relationships are what drive its ability to obtain funding. This is something quite different: A broader community and a shared purpose help to determine outcomes. This might shed light on how companies decide on a funding approach. A company that has a reputation on a crowdfunding platform would have more success raising money in that way. An entrepreneur who primarily has relationships offline and in traditional circles would be more likely to succeed with a traditional funding source (Cholakova and Clarysse 2015; Herve et al. 2016; Marelli & Ordanini 2016; Mauritzen 2016). In this case, self-selection, along with the other relevant factors that create this critical divide, may place a role in determining a firm's direction (Marelli and Ordanini 2016).

Lukkarinen et al. (2016) wrote about the elements that can set apart a crowdfunding campaign. One of the primary findings of their study was that many online crowdfunding campaigns simply do not work. While the public tends to hear about the ones that are successful, the many that fail receive less attention. The authors wrote this to quell the idea that anyone can obtain money through this type of capital raising. They also named the factors that tend to influence success; these success factors are different from those seen in the offline world. Critically, in offline campaigns, campaigns that succeed often do so because of the business fundamentals and the personal characteristics of the management team. This is not the case with crowdfunding, as many supporters of these ventures, even those interested in gaining equity, do not

seem to respond to the same cues as traditional finance institutions (Cholakova and Clarysse 2015).

Critically, there is evidence that the platform and the ability of the business owners to properly leverage the crowdfunding interface are essential. For instance, a company is more likely to obtain funding when it has a video that is compelling. In the context of traditional financing, the idea that venture capitalists would consider the presence or non-presence of a video as the primary determining factor is preposterous, but it illustrates the gap between the two models (Cholakova and Clarysse 2015).

Beyond that, another key success factor for any crowdfunding campaign is the extent to which the funding seeker is able to leverage both offline and online networks (Balboni et al. 2014; Brown et al. 2017; Gierczak et al. 2016; Honisch & Ottenbacher 2016; Hossain & Oparaocha 2017; Kim & Moor 2017; Previati 2015; Vedantam 2015). The ability to connect with new people is critical to garner the mass support needed for these sorts of campaigns, but at their core, these campaigns are subject to the same constraints as other funding drives (Balboni et al. 2014; Brown et al. 2017; Gierczak et al. 2016; Honisch & Ottenbacher 2016; Hossain & Oparaocha 2017; Kim & Moor 2017; Previati 2015; Vedantam 2015). Namely, people able to leverage their own private networks for crowdfunding are more successful than others (Balboni et al. 2014). For instance, one of the best ways to generate momentum early in an equity crowdfunding campaign is to distribute links to the campaign page to acquaintances. The goal, then, is to leverage a network using the platform, rather than to use the platform to generate interest and build a network. This is a critical difference that helps to illustrate why certain campaigns are successful and others, especially those lacking an existing network but hoping to build one, are not successful.

Balboni et al. (2014) closely investigated the market in Italy to determine what might determine whether Italian enterprises succeed or fail. The authors found three important elements that set apart those who met success from those who failed. First, the choice of a crowdfunding platform was a primary determinant. This is one of the most interesting questions, of course, that falls outside of the control of a company's founder. How well known and well respected a platform is can impact whether individuals are willing to invest through that platform. This means that the initial choice

is crucial because a company owner will not have much ability to change how people feel about a given platform. Secondly, the study found that founders who maintained a strong presence on social networks like Twitter were better able to leverage their networks for crowdfunding (Cholakova and Clarysse 2015). This is a crucial finding because it demonstrates just how strange and innovative this funding model is. It is much more about visibility and reaching people in a manner similar to a marketing campaign, while traditional finance is based on the fundamentals of the business. The study revealed that people who succeed at crowdfunding may merely be those able to stay in the public eye. In contrast, a more technical and logical approach is required to convincing venture capitalists and banks that a venture is worth investing in (Balboni et al. 2014). Finally, active campaigns tended to do much better. If a company was able to and willing to keep up with its investors over time by offering updates, then it could both build trust with those investors and increase engagement to drive more traffic to its mission. This important distinction underscores that in certain cases, little more than effort is required for SMEs to be successful at crowdfunding. Investors only want to know that the company is willing to listen to what they have to say; other factors provoke much less interest (Zetzsche and Preiner 2017).

Kunz et al. (2016) have echoed the above sentiments. The authors explored several factors that tend to influence the success of these campaigns. They hypothesized that these campaigns can be impacted when organisers take steps such as including a video and communicating with people who contribute. They found that the inclusion of a video was the most important factor in the success of a campaign. In particular, they noted that crowdfunding campaigns might be as much about emotional engagement as anything else. When people feel emotionally moved, an outcome that videos tend to encourage, they are much more likely to contribute to an initiative. These authors suggested that crowdfunding campaigns largely mimic non-profits and charities with their marketing. Those organisations attempt to encourage people to invest in causes larger than themselves, and they offer no equity other than the idea that donors might be able to experience a sense of ownership in their cause for a short period of time after donating (Zetzsche and Preiner 2017). They often try to stimulate an emotional response by posting videos related to their mission. This approach, the authors maintained, is similar to how crowdfunding campaigns work. They also suggested that campaign organisers who communicate with would-be investors through blog posts

and other informal mediums are much more likely to attract actual investment attention. Additionally, when there is a commitment on the part of the business owner to giving to other causes and investing in other businesses, people are more likely to invest in that business owner's SME. To suggest that all of these factors drive a major wedge between crowdfunding and traditional financing would be an understatement (Kunz et al. 2016).

Zetzsche and Preiner (2017) have indicated that the ability to engage across country lines is a critical factor in the success and failure of campaigns. While the authors were primarily writing about the development of an entire crowdfunding campaign and platform for all of Germany, they noted that SME fundraising campaigns able to leverage the full force of the continent have been able to raise capital more successfully than those campaigns focused on a single nation. In many cases, with the EU's economic rules, companies already attempt to reach consumers just across the border. It makes sense that they should try to leverage this closeness and economic cooperation to obtain the needed capital and funding (Zetzsche and Preiner 2017). Hornuff and Schmidt (2016) have claimed that one way business owners can ensure their future success is by giving more information to potential investors: "While equity crowdfunding expands the funding opportunities of start-up companies, which in turn can be an important driver of economic growth, some caution is warranted, as investors suffer from severe information asymmetries and the majority of start-up firms fail" (Hornuff and Schmidt 2016). What this ultimately suggests is that during a time when many SMEs are not disseminating information to the market, they are failing. At the same time, there is much more trust in those SMEs that are willing to bridge the gap in terms of information.

This conclusion links back to an important point regarding why companies choose to select crowdfunding instead of a traditional channel. Some companies have something to hide from investors: They have major shortcoming that they do not want an investor to uncover, and thus, they rely on a funding mechanism that is not likely to uncover those failings (Zetzsche and Preiner 2017). These are SMEs that seek crowdfunding neither because it provides benefits in terms of marketing nor because it is less time intensive, but because it allows them to take advantage of overly idealistic investors. The market is quick to adjust, however, and when it becomes known that these risks

exist, there is also a movement towards wanting more information prior to making these critical decisions. This means that in the modern age, with consumers and investors learning more about the failure rate of start-ups and the tendency of SMEs to withhold information during crowdfunding campaigns, companies should provide as much information as they can during these processes. If the ultimate goal is to build trust among potential contributors, then providing more information is a step start-ups can take to impact the success of their campaigns (Zetzsche and Preiner 2017).

Bonzanini et al. (2015) have mentioned that people are much more apt to support an initiative if they feel it has a mission and a purpose that serves society. These authors considered German start-ups trying to fix the problems brought about by fossil fuels and climate change. Namely, there is a movement in Germany to understand the effects of fossil fuels on society. That movement seeks to create more renewable energy sources to enable development that does not deplete environmental resources. While this movement has been slow to catch on in the United States, it has been popular in Germany, where the government has pushed for tougher emissions standards and other measures. Hence, projects claiming to be fixing a major problem in society have enjoyed more support in Germany than one might expect, and what is more, when companies demonstrate that they are capable of fixing such a problem, people tend to support them. Such projects almost seem more like a social or political cause than like mere businesses (Zetzsche and Preiner 2017). Respondents said their motivation for donating was the desire to invest in a new and innovative project trying to improve the world for their children. This outcome suggests that these people themselves had a strong desire to fix global problems but, lacking the ability to undertake so large a mission on their own, they decided to simply participate in a project being done on a grander stage. One can only speculate regarding how crowdfunding and venture capital funding differ in this regard. While there are surely traditional lenders who want to improve the world, the Internet and crowdfunding have been two of the most important elements behind certain campaigns' success (Bonzanini et al. 2015).

Vergara (2016) has claimed that another factor influencing whether a campaign succeeds is the quality of the underlying project and idea. Purists will note certain similarities between new financing models and the traditional outlets. While there has

been some focus in other stories on the manner of promotion and the quality of the presentation, the implication is that a project must possess value and significance to enjoy success. It is not all smoke and mirrors when it comes to the crowdfunding game, and perhaps it is true that the presentation itself can be a distinguishing factor that sets apart good ideas. The good ideas need to be applied, however, and the market itself cannot be tricked into supporting subpar ideas just because they are packaged attractively. This is a re-stating of the hypothesis regarding an efficient and wise market. Researchers have talked about the market having wisdom, and if this is true, then the underlying ideas that are supported must be promising (Bonzanini et al. 2015). Of course, investors come from the same class as consumers in the world of crowdfunding, so it follows that people who like an idea would both potentially invest in it and purchase the final product; hence project quality is both a requirement and a self-fulfilling element. This author did examine the market in the Philippines, which is much different from that of Germany (Bonzanini et al. 2015). Crowdfunding has had less success in Asian markets, and this may suggest that Asian markets are treating crowdfunding like a less formal version of their own traditional funding markets. With other studies in Germany have demonstrated that the most important success factors have very little to do with the actual project's underlying quality, it may just be that the factors determining success in the Philippines are much different than those in Germany, even if this is something that will bother those purists (Vergara 2016).

The literature discussed above is pertinent to the second (Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on other—that is, traditional—forms of financing?) and third (What is the potential impact on the traditional financing market of a shift in SME financing demand from financial institutions to crowdfunding platforms?) research questions of the study. Specifically, the literature suggests that motivations for crowdfunding and traditional investing are different, with crowdfunding appearing to be more of a partnership between the funder and the fundee and traditional investing often oriented towards the acquisition of equity and thereby having an element of competition in addition to cooperation. Game theory suggests that, to the extent that companies are able to secure funds through crowdfunding, they will do so in a manner that reduces their reliance on traditional funding, with its demands on equity. However, this prediction made by game theory has not been empirically tested. The purpose of the second

research question of the study is to test this relationship, and the purpose of the third research question is to explore the possible implications of a potential trade-off between crowdfunding and traditional funding.

2.7 The crowdfunding literature on capital providers

While much of the literature on crowdfunding and crowdinvesting has focused on those who seek capital, providers of capital have also been a topic of intense study. These people fascinate those who study investing and capital raising. Crowdfunders are people who have been excluded from many investment opportunities (Bonzanini et al. 2015). They now prefer to own part of private companies with promising ideas for fixing major problems. The literature on these individuals has covered topics from why they choose to invest, to what they invest in, to what kind of due diligence they conduct, to what their goals are. Other studies have explored who they are, what qualities they have, and what impact they have on society. As the world of private company investment in Germany has been opened to people who are not rich institutional investors, a whole new body of research has also emerged to better understand this phenomenon (Vergara 2016).

2.8 Motivation and focus of crowdfunding investors

There is no question that the people who participate in crowdfunding tend to look different and have different qualities than those involved in traditional capital raising schemes Hervé et al. (2016). Venture capitalists and Internet contributors differ in terms of their mission, financial standing, and ability to access information. Moreover, they may have different motivations that help to shape the outcome of the investment. Hervé et al. (2016) have written that crowdfunding investors have social motivations. They do note that at present, crowdfunding is mostly a world for men, with men constituting more than 90% of investors. Crowdfunding investors are mostly seeking to use their investing experience to build connections with other people who share their interests. Hence, people may be using these crowdfunding opportunities to build online communities similar to the message boards and forums that football fans might use to talk about their team. The hypothesis that crowdfunding is correction-based is backed by research that suggests that SME crowdfunding campaigns are more successful when they offer constant engagement and an opportunity for two-way communication between campaign organisers and investors (Hervé et al. 2016).

Pearson et al. (2016) agreed with these findings, but they added points of their own. They discussed the social element of investing in terms of “enjoyment”. Namely, they noted that people tend to invest because they enjoy investing and the feeling it gives them, and because they enjoy connecting online with likeminded people. People tend to invest in causes in which they believe and about which they are knowledgeable. A sports fan who likes to attend matches, for example, might invest in an app that helps bring less expensive tickets to the market. This means that to the extent communities are built around these investments, those communities tend to include people who are likeminded. It is human nature to want to come together in this way, and if the literature is any indication, this factor plays a role in encouraging people to invest in these campaigns. In addition, this study found that people tend to give to these causes in large part because of their philanthropic leanings. They view crowdfunding campaigns as a way to solve a problem. It does not matter to them that the company in question is a for-profit rather than a non-profit (Vergara 2016). They would look at Tesla, for instance, and see a company trying to stop the world from overreliance on fossil fuels. They would view that goal as positive, and to the extent they were offered an opportunity to be a part of the solution, they would accept it as a chance to be charitable, rather than something else. This means that many of the companies that are successfully engaging in crowdfunding campaigns largely owe their success to the nature of leverage. They are receiving extra benefits and extracting value from investors because they are essentially providing those investors with what a charity offers: the opportunity to feel positively about oneself by investing in a project that could change the world for the better (Vergara 2016).

Finally, the authors noted that investors are not unintelligent or completely self-sacrificing. Many are driven on some level by the idea of financial success. While they may not need to make money off of an investment, they are driven by the desire to feel vindicated and to see their judgments prove accurate. The money itself is more important as a reflection of something grander, namely, that the company will change the world and that they themselves will look smart for being among the first to recognise the potential. This may differ from the motivations of venture capitalists or traditional funding institutions because, simply put, those actors have enjoyed enough financial

success that they are not necessarily looking to new funding opportunities as ways to boost their egos (Bretschneider et al. 2014).

Bretschneider et al. (2014) have suggested that one should not view all crowdfunding investors as the same. Rather, it is critical to treat every investor as an individual with unique motivations for investing. While many venture capitalists and bank lenders tend to be similar in this regard, those involved in crowdfunding tend to be diverse and to follow a range of schools of thought. Companies naturally seek to raise money and capital from multiple sources, and people are bound to have different reasons for investing (Vergara 2016). The authors noted that while some may be hoping to grow rich or to be recognised for their foresight, others may contribute because they are a part of the online community where the money is being raised. Others may contribute because they have a social connection to the entrepreneur and want to demonstrate support for his or her venture. Regardless, the key takeaway is that treating these investors as falling into a single category of motivation is impossible: They are too diverse and have too many individual motivations (Vergara 2016). In some cases, people may be drawn to a given campaign because that it checks multiple boxes for the person. This is becoming especially true in a world where people can choose from so many different missions and initiatives. They can choose from projects that fix any number of problems or that that offer a range of rewards. People typically select the projects most likely to provide the most fulfilment in multiple domains. In investigating the motivations of people who provide capital to SMEs in Germany, these authors found that the best approach is to take every individual investor at his own worth and to never think that one has a person nailed down until one actually has that person nailed down (Vergara 2016).

Belleflamme et al. (2014) broke down crowdfunding motivations in an easy-to-understand manner. People tend to invest in crowdfunding campaigns for one of two reasons: They either want to obtain something or want to be a part of something. Their suggestion of taking data from many involved people is the fact that one can usually be right about the people involved in this if one is just willing to think in these very human terms. People are often greedy and are looking to take advantage of opportunities. In the crowdfunding world, this might mean equity, a significant reward from the company, or a sizeable profit if the company succeeds. Some people are

motivated by the extrinsic factors related to a company, and yet others are driven by more intrinsic elements. These are people who are motivated by being a part of a movement. They would like to derive some benefit from their investment, but the true reward for them is knowing that they contributed. This approach to understanding investors' motivations also considers how people view SMEs engaged in crowdfunding. Those that see these as companies as profit driven and capable of producing a return are likely to view an investment as a transaction (Muller et al. 2013). Those who view SMEs as enterprises trying to solve major problems in the community will see them as charities and will consider an investment using the same calculation applied to their charitable giving. For them, it is rarely about a return. People who give to charities rarely check to see how their money was spent and what return was derived from it. Rather, they give because it feels good and because they want to be involved in finding to solutions to problems. The community, whether it manifests itself in the form of online discourse or something else, is a powerful motivator for people who may not see investing and crowdfunding as actions undertaken to turn a profit. Muller et al. (2013) have indicated that some investors even see giving to an SME through a campaign as allowing them to be part of the team atmosphere that the company has built. Namely, these individuals may feel that the company is able to develop new technology and to solve problems because of their capital contribution. From this perspective, funding is a means of making investors feel involved even when their contribution is made online and does not entail meeting anyone at the company or helping to determine the SME's future course of action. As Wilson and Testoni (2014) have reported, some may even contribute because they want to be involved on a meta level in helping to usher in an era where crowdfunding plays a larger role in the capital markets in Germany. They may define their role and their community as participating in opening capital markets more fully to people who are not rich and who lack the institutional investor status that has typically a requirement to back private companies in Germany and the United States (Muller et al. 2013).

Moritz et al. (2015) have also noted the role of feeling important. People who invest in the crowdfunding campaigns of SMEs often have an opportunity to feel important, even when they are not contributing much. This is an element of such campaigns' design, of course. People are given names that describe the extent to which they have helped the company. This is a generally positive development because it provides investors

with the desired boost to their self-esteem. As these authors have noted, when SMEs are willing to communicate with people who are investing more and more, those investors feel big, which leaves them more likely both to give to the SME and to promote the company to those they care about. Making investors feel important through communication is one of the most effective actions an SME can take if it wants to have a successful campaign, and this is due to the fact that participating in such campaigns permits people to fulfil major needs that their professional lives have perhaps been unable to address (Moritz & Block 2016). Feeling a sense of ownership in the company can be especially rewarding for those who feel as if they do not own anything at all. Discounting this important element of motivation would be foolish because the need to feel recognised is very human, and this is especially true among people who would tend to be the smaller investors. In some respects, being able to invest in an SME trying to bring about positive change is the only way many of these investors can get their foot in the door. An SME that is quite competitive in its hiring might never hire a particular investor, but that person can still feel important if he or she invests and if the company utilises a communication strategy that makes that individual feel valued and recognised (Muller et al. 2013). The level of competition associated with SMEs may also contribute to risk and social elements associated with crowdfunding.

2.9 Risk and behavioural signalling among peers

The term *crowdfunding* includes the word *crowd* and is used to discuss “peer to peer” lending for a reason (Moritz & Block 2016). The social element created is based on the market base and how the SME targets this market for investment purposes, similar to how social networks seek to recruit individuals for causes. Those SMEs hoping to raise capital from these campaigns often want to do so with the support of a community and by capturing the tendency of people to do what those around them are also doing. This is the nature of the viral society in which we now live; people largely follow leaders and base their actions on expectations regarding others’ behaviour. However, *social pressure* is not the right term, according to the literature (Moritz & Block 2016). Rather, signalling may be important, and timing may also be a critical element. When others around a person pick up on an important trend and invest in a project, he or she is much more apt to do the same. Ahlers et al. (2015) have written about the nature of signalling in terms of information sharing both by SMEs and early investors. When

there is effective communication to potential investors, this often serves as a signal that pushes those individuals to invest, even if they otherwise might not have invested in anything. Critically, people tend to invest when they feel that it is safe to do so. One of the first factors they consider is the presence of other investors. Moreover, many perceive the willingness of the SME to provide more information as signalling that it is safe to support the project in question (Ahlers et al. 2015).

Vismara (2016) has described this phenomenon as *information cascading*. When information begins, it can be shared quickly, and it can play a powerful role in encouraging more people to invest in an initiative. Information cascading is commonplace for those doing business on the Internet. In all forms of online exchange, people have tended to move in this direction. Political news cascades across the Internet, from platform to platform, until the public have received the key message. This is why, as Vismara (2016) has suggested, it is so critical for SMEs to choose the right platforms for their funding campaigns. When the platform easily facilitates sharing on social media and the like, it enables the spread of information from one potential investor to another. This review constitutes the core of signalling in the world of crowdfunding; information cascades are all about transparency. When early investors have public, linked profiles that people can see, they learn more about the first people to invest. Those people then become real, with rich backstories and histories that later investors can identify with. They see that the people investing in an SME are much like themselves, and they are hence more willing to trust the SME and its campaign. The first investors and their openness have a signalling effect on others. These individuals essentially hear the call all around them and are then willing to trust the SME more than they would have without this social signal (Moritz & Block 2016). This demonstrates the trepidation with which many investors in Germany have approached this kind of investing. On one level, they experience anxiety because they do not know what is good and what is not. Information asymmetries within investing platforms might result in investors basing their decisions on their best guesses and instincts regarding what to target and what to pass over (Moritz & Block 2016). When they see that others have invested in a project, and when they can connect with those other people, these individuals are more likely participate in what might otherwise be a risky investment (Moritz & Block 2016).

Klein (2016) has claimed that investors in SME crowdfunding campaigns are largely looking for a reason to invest rather than a reason to avoid investing. For all the reasons mentioned previously in this review, they are motivated to get involved. At the same time, they often need a hook to pull them in and to signal that the investment pool is safe. This is why, as Klein has noted, some entrepreneurs use third-party affiliation signalling to attract people. Just as many individuals would hardly want to go on a date with another person without knowing if they shared mutual friends, many people will not invest in a company without knowing whether the founder is associated with any organisations that speak well of that founder (Vismara 2016). Klein found that when business founders can point to a connection to an investor syndicate, this is an effective signal that tells crowdfunding investors that the entrepreneur is legitimate. Those crowdfunding investors look for such signs almost anywhere. As soon as these investors obtain this assurance that the entrepreneur has a promising future and is associated with another syndicate, they are often willing to involve themselves. Those SME owners who put together crowdfunding campaigns are quite aware of this, as they often like to use these affiliations to encourage more trust and to attract more investors. How they introduce these affiliations can make a major difference as well, and more subtle introductions are more effective than a “bullhorn” approach. The latter may be perceived as “trying too hard” to be legitimate. Investors notice such efforts and are often repelled by the desperation they imply (Vismara 2016).

Block et al. (2016) have noted that some of the most impressive SME crowdfunding campaigns have been those able to combine effectively communicating with investors and knowing how to signal key points. For instance, in studying the communication techniques of campaign organisers, the authors found confirmation that more communication is better and leads to more trust and engagement. They also found that many crowdfunding campaigns’ communication strategies incorporated investor and social signalling. For instance, as part of keeping potential investors up to date regarding campaign events and company news, an SME owner can casually mention that a reputable person or organisation has made an investment or otherwise endorsed the company. According to Vismara (2016) this has the important effect of suggesting to undecided potential investors that they might be missing out on a promising opportunity that others have recognised. The fact that the company communicated and integrated signalling into its strategy can ultimately help those individuals to resolve

their doubts about investing. This is just one way, according to Block and others, that SMEs have been able to use social signalling to their advantage to help people past their fears and into a community of trust centred on a product or service .

2.10 The literature on intermediaries in crowdfunding relationships

As mentioned by Block et al. (2016) while funding seekers and providers are interesting because of the complex motivations and dynamics that come into play, an important branch of the literature also covers the important role of the intermediary (Block et al. 2016). Peer to peer lending and other forms of crowdfunding did not emerge for many years because the technology simply was not ready. All of the other elements needed to make these deals existed: There was desire among those not allowed to invest in private companies to participate in such campaigns. At the same time, SMEs demanded the funding denied to them by a system that tends to prioritise those people and companies that are already wealthy. The only piece missing was the technology to make crowdfunding possible—and even more, to make it easy. The literature on the innovative sources for platforms has been important in shaping the decision-making matrixes of companies seeking to raise money in easy ways that allow them preserve ownership of equity (Block et al. 2016).

2.11 Risk and information asymmetry

The world of crowdfunding is problematic in part because the people asking for money have more information than those providing money. The law takes care of this dilemma when the company is public (Courtney et al. 2017). When a company is offered for public consumption on an exchange, and when it becomes publicly owned, there are requirements concerning what must be turned over to investors (de Silveira 2013). There are also strong controls governing what must be reported and how often. This is critical to the development of open markets, and these rules allow people to invest with confidence. When such rules are broken and trust is shattered by people hiding facts or manipulating data, the perpetrators are often punished harshly (Kumar and Aldous 2015). Few will forget the Enron scandal in the United States. In that case, Ken Lay and others within the energy company falsified documents and inflated numbers to keep the stock price high so that their own corporate bonuses would be very large (Roy 2015). This is something that happens less in those situations because of tight controls (Bratton & Levitin 2013), but in the world of SMEs in Germany, where

companies are not taken public and do not have to abide by many of the same laws as public companies, information asymmetries become possible. Courtney et al. (2017) have reported that one way intermediaries have been able to address such information problems is by ensuring that people have access to as much third-party information as possible. This author suggests that intermediary sites such as Kickstarter and Prosper are well aware of the problems affecting this particular practice and have hence developed technologies that link their investors to information. Social signalling, of course, is a major part of such efforts, as investors are able to see the affiliations of those seeking money as well as the affiliations of the other people investing. Other tools have been developed with the primary goal of ensuring that people on either side of a given transaction have everything they need so that the transaction is a satisfying process that is not marred by the threat of fraud (Courtney et al. 2017).

Firoozi et al. (2017) have described the important role that intermediaries play in trying to prevent fraud. If there is one factor that these intermediaries control, it is the question of who can use their platform on either side of the aisle. They can ban companies and investors from their platforms, even for life. In Germany, they can do so for almost any reason, and they certainly have the ability to do so when either party is engaged in fraudulent activity. With this in mind, the website itself, as the third party that helps investors find the companies in which they want to invest, can represent a signal to those investors. By allowing entrepreneurs to share their campaigns, a platform is suggesting to its investor base that those entrepreneurs are on the up and up. While mistakes can happen, it is possible for those platforms to exclude people who do the wrong thing. As the platforms grow and become more important, SME owners who might be tempted to do the wrong thing have to think about whether they want to risk both their reputation and their ability to operate on a critical platform that will become increasingly important in providing access to investors (Bratton & Levitin 2013). This leads to a situation where there are certainly more controls over who can use these sites and in what ways. Despite little in the way of formal regulations, the intermediaries are taking at least some steps to ensure that the problem of fraud is minimised when money is being exchanged between people who do not know one another (Bratton & Levitin 2013).

Of course, as McKenny et al. (2017) have noted, there is a significant problem, and more research must be conducted on that point moving forward. While intermediaries have marshalled their tools in order to provide more signalling and more capabilities, they have not done enough to ensure that fraud is prevented. Stronger fraud monitoring tools and better prevention tools may be necessary if these companies want to enjoy legitimacy and to remain an important part of the capital markets in Europe. At present, one of the concepts underlying crowdfunding is also one of its main weaknesses. One reason crowdfunding emerged was that people simply did not have access to investment opportunities (Bratton & Levitin 2013). They were held back because the traditional funding sources did not have any respect for them, and government regulations did not provide them with the desired access to markets. In order to fix this problem, as McKenny has noted, there needed to be more openness to almost anyone. The idea behind the intermediaries was that anyone with a promising idea would have a forum to present that idea, allowing the market to weigh in on not only the value of the idea but also the trustworthiness and an intelligence of the person pitching it. While this openness has arguably made the world of crowdfunding more democratic and allowed the business world to be more based on merit than on relationships with major funding bodies (Catalini et al 2016), it also has a downside. When anyone can obtain capital, some people will to use that opportunity to take advantage of others who simply want to be a part of a cause. This illustrates the conundrum that many intermediaries find themselves facing. In a way, their core purpose is in conflict with what they need to do to sharpen their services and help people even more (Catalini et al 2016),

Courtney et al. (2016) have noted that one of the ways in which these intermediaries can resolve their internal existential conflict is by using their core strength to mitigate their core weakness. Engagement with their constituent communities is a major undertaking that can make a considerable difference in determining whether fraud takes place. The investment community's sentiment regarding an intermediary site can push a campaign forwards or cause it to lose traction. Certain intermediaries have worked hard to provide platforms where investors can share their thoughts and concerns (Bratton & Levitin 2013). One of the most important steps they can take is making sure that these investor voices are not silenced and that legitimate concerns are considered and given due respect. The strength of the community and the collective wisdom of the investors belonging to it should offer some ability to push back

against fraud. While it may not be able to completely mitigate information asymmetries, it can allow a platform where people can share their thoughts and lessons learned regarding potential investment opportunities. In this way, the information obtained by one individual could play a critical role in informing the entire community about an element of a given campaign that might otherwise be damaging to everyone (Courtney et al. 2016).

2.12 The impact of intermediary choices on donor behaviour

Intermediaries play a critical role in influencing how their own investors interact with their platforms (Bratton & Levitin 2013). One of the most important questions regarding SME crowdfunding in Germany is which model a given platform is going to use. There are multiple models available which provide a structure for organising how giving and receiving take place. For instance, if a company is trying to raise a certain amount for a project but fails to meet its goal, albeit by a close margin, a choice needs to be made: Should that company be able to keep the money it has raised through the campaign? Should the money be returned to those who contributed because the campaign failed to reach its objective? There are many reasons why a given platform may choose one of these options over another, but they must consider how the decision ultimately impacts the behaviour of customers (Cumming et al. 2014).

Cumming et al. (2014) have reported that when a platform or intermediary uses an “all or nothing” approach to crowdfunding, people are much more likely to contribute. With this model, people get something back if the campaign does not reach its goal. There are two potential reasons why this could be the case. First, this structure creates more incentives towards the end for people to give. If an SME raises funds totalling 95% of its goal and it only has one day left in its campaign, then there is an easy way to communicate that to potential investors to encourage them to help (Mollick 2014). This simple step creates a sense of urgency that may potentially drive people to give money when they would not have otherwise done so. Cumming et al. (2014) have also hypothesized that people like to give when they know for certain that their money will be returned in the case of failure (Belleflamme et al 2016). At present, there is a school of thought in the literature that strongly suggests that people only tend to give money when they believe they are making a considerable impact. If they trust the SME that it needs a certain amount of money to begin operating, they may also logically believe

that if the SME fails to reach its goal, it will struggle in this regard. These two schools of thought are in conflict, and perhaps both motivations play a role in determining whether people give more when an “all or nothing” approach is in use (Cumming et al. 2014).

Solomon et al. (2015) have noted that companies that facilitate crowdfunding have a strong incentive to see those campaigns work. Sites that provide this service are, of course, trying to earn a profit. They are companies with payrolls, monthly projections, and other financial concerns. When they run a campaign and it is successful, they get to keep the percentage of the funds raised representing their fees. They are able to take a share of the profits and to advertise that a particular company managed to raise enough money to perhaps release the next trendy card game or cure world hunger through a new type of corn. When campaigns are not funded, however, these sites do not get to keep a percentage. They have to refund all funds, including their own fee. This outcome represents a complete loss for everyone involved. All participants have lost their time, the SME has not obtained the capital it needed, and the investor is left scrambling to find a new opportunity for his or her money (Bratton & Levitin 2013).

This reality means that the platforms have two important questions to ponder (Solomon et al. 2015). First, they have the choice of whether they want to use a “keep what you get” model in which SMEs get to retain the money they raise even if they do not reach their goal. This benefits the platform or intermediary because from its perspective, all campaigns are a success; this model also allows it to keep a share of the funds raised. At the same time, this choice has the potential to harm the intermediary because, as the research suggests, people do not give as much money under this format. Intermediaries have a financial obligation to promote the strategy that creates the most engagement because that will yield the most in fees. At the same time, they have to weigh the risk of losing everything in a given campaign versus the certainty of knowing that a given campaign will provide at least some money (Solomon et al. 2015). As these authors have noted, there are other ways that companies can increase engagement. While some decisions and elements are in the hands of the SME running the campaign, other methods of increasing engagement are under the control of the intermediary. That third-party platform can effectively push for additional investor engagement by putting into place elements that push for more early returns. Just like

fundraising for a charity often depends on early momentum to confer legitimacy and bring in momentum on the back end, for an SME, crowdfunding requires a company to attract investors early in the process (Vachelard et al. 2016). When a company succeeds in doing so, it will draw more late investors, but if the SME cannot attract that critical early mass, a sense of failure will linger over the campaign and make it difficult to gain momentum. It is a difficult catch-22 and something intermediaries must consider.

Vachelard et al. (2016) pointed to another critical way in which intermediaries can alter the behaviour of site visitors. While it is certainly true that the decisions of those intermediaries can help determine what individual investors do, these intermediaries also play a critical role in setting expectations and behavioural norms for investment seekers. First, they are able to establish norms regarding how much money a campaign organiser can initially ask for. As Vachelard et al. (2016) has reported, when people use crowdfunding to try to attract capital for a campaign dedicated to science, they have a serious chance of raising high amounts because people want to contribute to projects that are apt to change the world. At the same time, if an intermediary site is operating via the “all or nothing” system, it is incentivising an SME to choose a lower amount than it might have otherwise chosen. If the alternative is to receive nothing, SMEs may choose a lower amount and then come back on the back end and seek much more later on (Bratton & Levitin 2013). This critical strategy enables them to ask for more funds later but impacts how aggressive they are willing to be during an initial campaign. Intermediary sites have to choose how they want to manage these situations because their impact on the behaviour of funding seekers may not always be positive. To the extent that the setup and design of a site’s offerings keep SMEs from getting what they need out of fear, the intermediary has done a poor job of facilitating its core purpose (Bratton & Levitin 2013)..

There is, of course, an argument that sites can be designed so that SMEs can receive more funding than requested, and this is even possible with the “all or nothing” format (Bratton & Levitin 2013). For instance, an SME can set a low funding target in order to ensure that it meets its goal, and then it can receive additional funding from interested parties. This, however, undermines the entire concept of “all or nothing” funding; people simply will not give money once a company has visually reached its goal, even

if that goal was somewhat nominal. The sense of urgency evaporates when this happens, and the company can no longer pressure potential funders to help it reach its goal. This particular fix is not advantageous, as it does not resolve the operating problems that can sometimes occur when such systems are put into place (Vachelard et al. 2016).

Importantly, intermediary sites also have the ability to influence behaviour by requiring more disclosure from both campaign organisers and funders. There is little reason to require investors to provide more information about themselves on the site in places that are public and visible (Solomon et al. 2015). Funders are entitled to anonymity just as rich investors and venture capitalists are entitled to remain behind the scenes if they so choose. This means that the decision to compel these individuals to provide more information is typically based on the needs of the intermediary site. The site may need to engage in more social signalling to attract people to a given investment, so it may ask for additional information from certain users. Or, intermediaries can give investors control over whether to reveal information—which is the route many sites have chosen as a compromise between their obligations and their desire to turn a profit (Solomon et al. 2015). At the same time, these sites can positively influence behaviour whenever they require entrepreneurs to disclose more information. The goal of such initiatives is to ensure that entrepreneurs are open and honest with investors about who they are and what they want. The more information that is required of them, the more likely it is that the process will be transparent. In this case, the interests of the site and the entrepreneur or SME are aligned. Because social signalling plays such a critical role in the success of these campaigns in the first place, requiring more information from funding seekers has the effect of protecting investors while also increasing their likelihood of investing in the campaign being marketed to them. It is a true win-win for the intermediary site, while in other situations, it must make value judgments regarding priorities in a given situation (Vachelard et al. 2016).

2.13 The literature on the particulars of SME crowdfunding in Germany

While there are many similarities between crowdfunding in the United States and in Germany, there are also a number of particularities specific to German crowdfunding. Perhaps most important is the fact that crowdfunding has been a more successful venture for businesses in Germany than has been the case in the United States (Braig

2016). It has, of course, become quite popular for actual charities and private, individual charity in the United States, but that has not translated into the widespread use for raising business capital that one might have expected. The literature has focused extensively on both Germany and on individual country case studies to reveal important facts about the nature of crowdfunding in the EU and Germany (Braig 2016).

Hagedorn and Pinkwart (2016) have reported that in Germany, traditional funding sources are much less willing to help SMEs by providing necessary funding. Perhaps, the authors have suggested, crowdfunding in Germany has become popular because of need, as these enterprises have been essentially left behind by the institutions that could have helped them to succeed. In the United States, SMEs, especially in the tech industry, have had success in obtaining rounds of funding from various traditional sources. Even firms with projects as whimsical as daily fantasy sports have been able to raise funding from traditional venture capitalists and huge, well-known entities (Wallach & Dunbar, 2015), including the major sports leagues and sports networks such as ESPN (Braig 2016). The tendency of institutional investors and lenders to support SMEs in the United States has resulted in far less need for crowdfunding to fill in the gaps. The situation is quite different in the EU, including in Germany, as there is currently much less focus on these particular things, and there is much more focus on allowing companies to obtain funding through intermediary platforms with limited rules and oversight (Braig 2016).

One of the unique aspects of crowdfunding in Germany is the tendency for it to go on without limits (Joenssen & Müllerleile 2016). Until now, crowdfunding in the EU has been governed by few rules and regulations, and it operates differently depending on the country. While this has had a positive effect in some ways, with more people accessing the capital they need to make business improvements and push their ideas, in certain cases, this limitless expansion has tested the efficacy of the system. As Guerzoni et al. (2016) wrote regarding the Italian context, questions have arisen about the relationships between investors and entrepreneurs. Accusations have claimed that in some cases, social signalling by both sites and entrepreneurs has been fake or contrived. These reports have called into question the legitimacy of the venture while also striking fear into the minds of investors (Braig 2016).

Nasrabadi (2016) has indicated that in Germany, crowdfunding has gone beyond simple financial innovation. As he has noted, in Germany, financial systems had become so archaic that they were primed for disruption. The rules were rigid, people were often not treated well, and there was no real end in sight. There was a need for a private solution able to challenge the traditional business finance world in Germany, especially with the conditions ripe for competition in many industries (Joenssen & Müllerleile 2016). Crowdfunding emerged from this need. Just as many other industries need innovation when their primary players have grown stagnant and have forgotten about meeting societal need, in Germany, many banks and venture capitalists had lost the ability to adjust to changes in the market. One of the primary differences between the German and American SME landscapes is that large companies have begun to dominate many of industries in the United States where there might have been competition from a smaller company bringing a new product, process, or idea. When industries are dominated by such large, powerful players, those sizable companies tend to constantly scoop up smaller companies in sales and acquisitions (Joenssen & Müllerleile 2016). This is far from a beneficial outcome for consumers and the competitive market at large, and it also creates a situation where there is less innovation in funding. The American market being what it is, many SMEs never progressed to the funding rounds needed to expand because they were purchased well before that point. The literature has suggested that the business climate in Germany may be more conducive in some countries for SMEs to challenge larger players. An environment more likely to facilitate such results tends to produce innovation in the funding world (Joenssen & Müllerleile 2016).

Gossell et al. (2016) have touched on one of the most important characteristics of Germany that may make crowdfunding for SMEs a more likely venture than in the United States. As the authors have stated, Germans are more likely to embrace the idea of working together, while in the United States, there tends to be a belief that tasks can be handled individually. There is less of a belief in the power of the collective, and there are even political buzzwords used to keep people from trying to push for collectivism. Many of the countries of Germany have large, supportive governments that provide a litany of services to their citizens, including medical care and free education (Nasrabadi 2016). There is a cultural understanding that these services provided through the collective conscience of the country are necessary for the survival

of the human race and for solving the important questions facing society at large. As some authors have pointed out, it is entirely possible that this cultural leaning may provide a partial basis for understanding why crowdfunding has become so popular (Dennis 2015). The willingness to acknowledge major societal issues is only a starting point, however, as in such a culture, the need for companies with strong social convictions is recognised. The acceptance of an obligation, which then manifests itself through the more benevolent elements of crowdfunding, is an incredibly powerful aspect that tends to push these crowdfunding efforts forward.

Hooghiemstra and de Buysere (2016) have written about the significant cooperation of banks and Germany regulators in terms of establishing limits for crowdfunding campaigns. This outcome may foreshadow the future for the United States, and it signals many critical points about the effort to provide SMEs with funding in Germany. This authors have noted that financial institutions in Germany had been negligent in keeping pace with the needs of businesses. Many SMEs did not enjoy the right to obtain funding from these larger sources, even when their ideas and underlying fundamentals were strong (Nasrabadi 2016). At the same time, SMEs often could not afford both the time lag and financial costs involved in this kind of investment. Ultimately, the high costs of working with these financial institutions excluded these SMEs, which meant that German consumers could not take advantage of the often-superior services and products developed by these innovative companies (Nasrabadi 2016). Of course, when crowdfunding sites emerged to meet this need, they presented a direct risk to the banks that had depended on overpriced services up until that point. These banks had colluded with regulators to make it more difficult for average people to get involved in investing. As the authors have noted, the regulators and banks attempted to justify their actions in many ways, but their main argument has centred on the need to protect investors from fraud and other things. While these sorts of regulator moves are always explained as attempts to protect small investors from their own lack of knowledge, the actual goal is to protect banks from being overtaken by a more innovative movement. This threatens innovation within the German funding universe, since major financial institutions have found it easy to collude with regulators to restrict organisations seeking to fill a critical need in the Germany business world (Funk 2016). This has also happened in China, where a number of major financial institutions have successfully used their clout to pass laws limiting the ability of certain

crowdfunding applications to subvert banks (Funk 2016). While some have argued that Asian consumers are simply not attracted to crowdfunding, others have claimed that potential users have not been able to determine whether they would like to use these platforms to reduce costs because collusion between financial institutions and the government has resulted in the entire industry being shut down at a very early stage (Afterman 2016).

Ramos and Gonzalez (2016) have written about the effects of crowdfunding in Spain and how it has helped to change the employment market there. As they have noted, when companies are able to simultaneously obtain funding and save money, they are in a much better position to hire people and power the community at large. The authors studied the impact of the rise of the Spanish crowdfunding movement. While they did not find that the increase in the availability of capital solved all problems, they did report that more people were being hired and more savings were being passed on to those workers (Afterman 2016). The ultimate outcome was that many Spanish companies were operating more efficiently, as they were no longer forced to pay high bank fees. They were able to expand to meet the rising demands of their customers and to hire more workers to make that possible. The net benefit for society was impressive, according to the authors, and constitutes a compelling case for why crowdfunding is beneficial for society. Diaz and Cacheda (2016) have described how crowdfunding and the movement towards social entrepreneurship have led Spain through a challenging era. The authors have pointed out that these two things have been linked in Spain and across Germany. More people are taking it upon themselves to start businesses not only to earn money but also to fix the many problems facing the world today. Because they are doing so, they have been able to fill in the gaps where some governments have failed (Afterman 2016). This has been critical in Spain, as in Italy, Greece, and other parts of Europe. In the wake of the economic downturn, governments experimented with austerity policies, which meant that there were often not enough government resources available to fix the problems facing these countries. Rather than waiting for a miracle, many decided they would use their own abilities and networks to start companies addressing the gaps in social policy. This gave rise to the need for a quick funding source that could be responsive. Following the crisis, traditional banks were both weak and slow to respond to rapid demands (Cacheda 2016).

Shneor et al. (2016) have reported that in certain parts of Germany, there is a lack of available jobs, and just as immigrants in some countries choose to work for themselves because they cannot get hired elsewhere, many people in the Baltic states are turning to entrepreneurship. This movement is positive, as people are seeking to meet their own needs. The problem, however, is that in places, an established and effective business funding system is not in place. While in parts of Germany, the crowdfunding movement has arisen to displace traditional funding sources, in other parts of Germany, the movement is primarily filling a gap because few options exist in the first place. The authors have noted that movements in business ownership in these regions have been largely fuelled by cross-national crowdfunding movements. This demonstrates the unique power of globalisation to provide solutions to local problems, especially when there is an appropriate infrastructure to allow such exchanges to take place (Cacheda 2016).

The regulatory framework governing crowdfunding in Germany remains open to the concept, which is one of the elements that has enabled crowdfunding to grow at such a rapid rate. Donation-based crowdfunding is allowed in all Germany nations. In Finland, however, the powerful Act on Fundraising has resulted in administrative hurdles and higher costs for crowdfunding (Wilson & Testoni 2014). As Aschenbeck-Florange et al. (2013) have suggested, reward-based crowdfunding presents more difficulties across Germany. While reward-based crowdfunding is typically accepted in all nations, some regulate it under e-commerce laws. Under those laws, companies are sometimes required to provide refunds if something is amiss or if an investor changes his or her mind. Taxation on these transactions is another issue at place. The uncertainty surrounding reward-based crowdfunding can make it a less-than-ideal option for some entrepreneurs, especially those seeking more stability (Wilson & Testoni 2014).

Equity crowdfunding is allowed in most German regions, and it is regulated under existing securities structures. However, there are restrictions, and as Wardrop and Ziegler (2016) have written, regulations are growing stronger in the United Kingdom and elsewhere. Denmark is the least open to this sort of capital funding, as it does not allow companies to offer equity crowdfunding opportunities to investors. Some Danish companies have manoeuvred around this by registering pro forma companies in

countries where crowdfunding sites and platforms exist. For instance, British companies have risen to meet the need, allowing Danish capital seekers to obtain the cash they need (Wilson & Testoni 2014).

While there is substantial discussion of crowdfunding in the German SME context, it is not adequately known how crowdfunders in Germany face potential regulatory risks, thus providing a motivation for the fourth research question of the study (In the context of crowdfunding, what are potential regulatory gaps that could lead to systematic risk?). Game theory, while applicable to the first three research questions of the study, is less applicable to the fourth, because regulatory agencies appear to have equal duties to small investors, SMEs themselves, and institutional investors; thus, game theory does not predict the existence of either overt regulatory blocks or encouragements to crowdfunding in the SME context.

2.14 Conclusion

The literature on German SMEs' use of crowdfunding to overcome the problems associated with traditional funding demonstrates the dire situation facing many companies in that country. American venture capitalists and banks have proven more willing to support promising SMEs than has been the case in Germany: German banks have been slow to lend following the financial collapse, and venture capitalists, who are only interested in investing in a few companies, offer little refuge (Wilson & Testoni 2014). As the research has demonstrated, crowdfunding did not emerge for no reason. Rather, it arose to meet needs in countries where the government was not doing enough to support the people. Business founders started companies, often based on the aim of fixing social ills facing their countries and the world (Aschenbeck-Florange et al. 2013). This led to the crowdfunding movement, which allowed those founders to solicit money from not only investors at home, but also investors abroad. In many parts of the EU, crowdfunding opened the eyes of the business world to a new way of helping these businesses to expand, to hire more people, to produce more, and to market themselves more effectively. On the whole, it has been a positive movement, but there has been some pushback, as the literature has suggested (Ziegler 2016).

The literature has demonstrated that funding seekers have many motivations for not seeking traditional funding. In short, many of these SME owners and founders had no

choice but to rely on crowdfunding because they either lacked the necessary connections to banks or venture capitalists or had ideas that would not appeal to major funding parties (Aschenbeck-Florange et al. 2013). In some cases, their motivations were more complicated. The funding seeker might have wanted to save money or to move quickly; both goals can be accomplished with crowdfunding but may not be possible in the traditional finance world. Moreover, stories have abounded of businesses using their crowdfunding campaigns as more than just a round of funding. Rather, they have leveraged these campaigns to market themselves and to build excitement among investors; this approach incentivises those investors to then promote what the company is doing. Finally, some firms chose crowdfunding to demonstrate that they are committed to be an insurgent company that operates in its own way. These different motivations highlight the diverse kinds of companies that seek funding through this unique movement, and it illustrates why one should never try to put an SME founder in a particular category (Cacheda 2016).

The motivations for those on the other side are rather simple. As the literature has pointed out, these people are seeking equity, a financial reward, or the opportunity to be a part of something that is larger than themselves (Ziegler 2016). It breaks down depending on whether the goal is an extrinsic reward or an intrinsic reward. Those SMEs that rely on crowdfunding offer people a chance to be a part of a movement, especially when the product or service will help solve a major social problem. For some, however, crowdfunding is primarily about money, and they are essentially buying lottery tickets in the hopes that their equity in a company could one day lead to high profits (Aschenbeck-Florange et al. 2013).

Germany is unique in this regard, and crowdfunding has found the most success in those countries where the government has largely failed and banks have been slow to respond (Afterman 2016). The future is unclear for SMEs and crowdfunding sites, however, as there are changes on the horizon. The power of crowdfunding has reduced the influence of large banks that would otherwise have the ability to encourage governments to treat them favourably. This leads to doubt regarding whether crowdfunding will continue to be a force for SME founders or whether those founders will have to return to an era of struggling to convince large banks and other sources of corporate capital that they are worthy of their time and investment (Afterman 2016).

Based on a synthesis of the literature reviewed in this chapter, there appears to be a tension between traditional funding and crowdfunding as utilized by German SMEs. Traditional funding might be harder to obtain and tied closely to investors' need for equity whereas crowdfunding might be simpler to obtain and less tied to investors' need for equity.

Game theory provides a conceptual framework that can link the concepts of investors' desire (for example, in equity or in the maturity of an investment target) and investees' desires (for example, in terms of retaining equity, testing the waters, building communities, and remaining independent. One of the major elements in game theory is the assumption that the units (which could be companies or investors) are the primary decision makers.

The Literature differentiated following (Cholakova and Clarysse 2015; Mauritzen 2016) between cooperative and non-cooperative game theory. Cooperative has been primarily normative in its approach, whereas non-cooperative game theory, despite its stress on individualistic norms, has been more closely associated with experimental gaming and ad hoc applications. For studying the evolution of societies, we believe models of games within games, interacting on different time scales, are most appropriate. In this case, the long-term bargaining and discussion of cooperative games can be used to develop, maintain, and enforce the laws or rules for many largely individualistic and anonymously made decisions.

Therefore, under cooperative game theory, coalitions (which may be characterised as banks and German SMEs) are in competition to obtain financing but must make the decision whether or not to obtain financing from a traditional bank or through crowdfunding.

Conceptually, one of the common themes in the literature on the importance of crowdfunding to SMEs is that of cooperative game theory. Given that companies have a vested interest in maintaining equity (Cholakova and Clarysse 2015; Mauritzen 2016), the importance of crowdfunding to SMEs can be described in terms of retaining equity. Because crowdfunding depends on numerous, small investments, no single

investor has the ability to apply competitive game-theory dynamics in order to demand equity in return for investment (Andersen & Mauritzen, 2016). Thus, crowdfunding is particularly attractive to SMEs, but the importance of crowdfunding has not been quantified in terms of how much SME funding actually comes from crowdfunding.

Game theory suggests that, to the extent that companies are able to secure funds through crowdfunding, they will do so in a manner that reduces their reliance on traditional funding, with its demands on equity. However, this prediction made by game theory has not been empirically tested. The purpose of the second research question of the study is to test this relationship, and the purpose of the third research question is to explore the possible implications of a potential trade-off between crowdfunding and traditional funding.

The conceptual tension between traditional funding and crowdfunding can be empirically tested by means of (a) hypotheses that measure the trade-off between the two types of financing or (b) qualitative explorations identifying characteristics of the divide between the two types of financing. Based on the conceptual model of the investors and investees, the following empirical assumptions can be made. First, it is likely that, because traditional funding is more well-established, it will predominate over crowdfunding. Second, it is likely that, because of the tension between (a) the goals and characteristics of traditional funding and (b) the goals and characteristics of crowdfunding, there will be a negative correlation between the percentage of crowdfunding and the percentage of traditional funding for SMEs. Third, it is likely that, because of both the incumbent advantages of traditional funding and the specific aspects of German market conditions, discussed earlier in this chapter, that favour traditional funding, crowdfunding will be found to a niche with a limited future and limited impact on the overall funding market. Fourth, it is likely that the maturity of regulation will reduce the risks of crowdfunding and decrease systemic risk while the costs and benefits of crowdfunding can be understood through the tension between the goals of (a) encouraging investment and (b) protecting investors.

Each of these implicit hypotheses derivable from the conceptual model can be grounded in the literature. The well-established nature of traditional funding in Germany (Hagedorn & Pinkwart, 2016; Nasrabadi, 2016); the tension between crowdfunding and traditional funding in terms of goals and characteristics (Block et al.

2016; Bratton & Levitin 2013; Vachelard et al. 2016); the likely-to-be-limited impact of crowdfunding (Cholakova and Clarysse 2015; Herve et al. 2016; Marelli & Ordanini 2016; Mauritzen 2016); and the roles of regulation, investor inclusion, and investor protection (Aschenbeck-Florange et al.2013; Hooghiemstra & de Buysere 2016; Wilson & Testoni 2014) have all been noted in the literature. However, these implicit hypotheses have not been empirically tested on a sample of German SMEs, requiring the application of a research methodology and design of the kind proposed in Chapter 3.

3 CHAPTER RESEARCH METHODOLOGY, PARADIGM, AND DESIGN

3.1 Introduction

The purpose of Chapter 3 is to describe and defend all relevant aspects of the methodology and design of the study. Chapter 3 has been structured as follows. First, the problem, goal, and questions of the study have been noted, with the questions of the study containing both the quantitative and qualitative research questions and, for the appropriate quantitative research questions, accompanying null and alternative hypotheses. Second, the research paradigms of the study have been discussed, with particular emphases on post-positivism and interpretivism. Third, the research approach of the study has been discussed, with particular emphasis on the qualitative and quantitative aspects of the study and their blending into a mixed-methods approach. Fourth, the research design of the study has been provided. Fifth, the research ethics of the study have been discussed. Sixth, a conclusion to the chapter has been provided. The findings presented in Chapter 4 are in alignment with the research methodology, approaches, and designs described and defended in Chapter 3.

Searches of several databases were conducted. First, a search using the Bolton gateway was conducted; this yielded several relevant articles. Several different keywords were used, including “SME crowdfunding in Germany”, “innovation in business crowdfunding”, and “SME capital crowdfunding”. These keywords were designed to target articles that specifically outline current innovations in SME funding. They were designed to examine Germany while also allowing for comparisons of SME funding mechanisms within Germany. The search also made use of other databases to identify relevant articles.

Studies were chosen for inclusion primarily on the basis of their relevance. This was the top criterion, and it was deemed more important than even the legitimacy of the source and the credibility of the author. Of course, those aspects were also deemed critical. The analysis included many peer-reviewed studies published in reputable journals, along with dissertation-level studies providing the appropriate level of insight into the topic. Because crowdfunding is a relatively new topic, especially in the SME world, there were fewer studies available in peer-reviewed journals than there will be

in a few years. This consideration necessitated including some sources that would not have otherwise been considered, primarily because they were needed to fill out the review. That said, these sources were studied to ensure that they provided value.

3.2 Research Problem, Goal, and Questions

Both the methodology and the design can be understood in terms of the objectives of the study. The three objectives of the study identified in Chapter 1 were as follows: (1) To evaluate and determine the importance of crowdfunding and crowdfunding platforms as financing alternatives for SMEs. (2) To evaluate and determine the potential impact on the traditional financing market of a shift in SME financing demand from financial institutions to crowdfunding platforms. (3) To identify and assess potential regulatory gaps that could lead to systematic risk. These objectives provided the basis for the research questions of the study. The research questions and hypotheses of the study are as follows, provided separately for the study's qualitative and quantitative approaches.

3.2.1 Determination of Quantitative Research Questions

The quantitative research questions of the study have been provided below. Each quantitative research question is accompanied by further discussion. Where appropriate, each quantitative research question is accompanied by hypotheses and a brief discussion of grouping methods. More extensive statistical detail about each quantitative research question has been provided subsequently in this chapter, including the actual statistical syntax utilized to generate the results of the study in the Stata / SE 14.2 software format.

RQ1: What is the percentage of crowdfunding in the overall funding of SMEs?

No hypotheses have been associated with RQ1, as it is descriptive in nature and therefore not accompanied by inferentially testable hypotheses (Moore & McCabe, 2009). RQ1 addresses the first objective of the study, as introduced in Chapter 1, which was to evaluate and determine the importance of crowdfunding and crowdfunding platforms as financing alternatives for SMEs. Crowdfunding as a percentage of all funding was calculated for the following groups:

- All SMEs in the sample for all years in the sample (2008-2017)

- All SMEs in the sample for each separate year in the sample (2008-2017)
- All technology-based SMEs in the sample for all years in the sample (2008-2017)
- All technology-based SMEs in the sample for each separate year in the sample (2008-2017)
- All non-technology-based SMEs in the sample for all years in the sample (2008-2017)
- All non-technology-based SMEs in the sample for each separate year in the sample (2008-2017)

The reason for treating technology and non-technology companies was the detection of an industry effect on crowdfunding, to be discussed further under the data analysis provided for RQ1. Specifically, using first an analysis of variance (ANOVA) with Tukey's post hoc test (Tukey, 1949) and subsequently an independent samples t-test for confirmation.

RQ2: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on other—that is, traditional—forms of financing?

In order to validate the statistical analysis, RQ2 has been subdivided into six distinct sub-research questions. Each of these sub-research questions is based on a comparison of SMEs' reliance on crowdfunding with one of five traditional funding approaches.

RQ 2.1: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on seed funding (equity crowdfunding)?

H 2.10: There is not a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on seed funding (equity crowdfunding).

H 2.1A: There is a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on seed funding (equity crowdfunding).

RQ 2.2: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on start-up funding?

H 2.20: There is not a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on start-up funding.
H 2.2A: There is a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on start-up funding.

RQ 2.3: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on Round 1 funding?
H 2.30: There is not a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on Round 1 funding.
H 2.3A: There is a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on Round 1 funding.

RQ 2.4: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on Round 2 funding?
H 2.40: There is not a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on Round 2 funding.
H 2.4A: There is a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on Round 2 funding.

RQ 2.5: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on Round 3 funding?
H 2.50: There is not a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on Round 3 funding.
H 2.5A: There is a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on Round 3 funding.

RQ 2.6: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on all other kinds of funding combined?
H 2.60: There is not a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on all other kinds of funding combined.
H 2.6A: There is a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on all other kinds of funding combined.

The second research question partially addresses the second research objective of the study, which was to evaluate and determine the potential impact on the traditional financing market of a shift in SME financing demand from financial institutions to crowdfunding platforms. The second research question consists of a quantification of the trade-off between crowdfunding and five kinds of traditional funding. This quantitative analysis was triangulated through qualitative analyses generated by the qualitative research questions noted below.

3.2.2 Determination of Qualitative Research Questions

The qualitative research questions of the study have been provided below, as is customary in qualitative research according Berger, 2013; Bernard & Bernard, 2012; Cassell & Symon, 2004; Davies & Hughes, 2014; Duffy, 1987; Given, 2008; Thanh & Thanh, 2015; Venkatesh, Brown, & Bala, 2013, no hypotheses have been associated with the qualitative research questions. Particular attention has been directed to explaining how, if at all, the qualitative research questions of the study interact with the quantitative research questions as enumerated in chapter 3.2.1.

RQ3: What is the potential impact on the traditional financing market of a shift in SME financing demand from financial institutions to crowdfunding platforms?

RQ3 was quantitatively addressed in the second research question, which allowed a trade-off comparisons between SMEs' reliance on crowdfunding and SMEs' reliance on each of five kinds of traditional funding. The results of RQ2 and RQ3 will be blended by means of a concurrent transformative design, whose purpose is to allow a general research question to be explored distinctly through quantitative and qualitative means, with the results subsequently interpreted by the researcher (Chadwick, Knapp, Sinclair, & Arshoff, 2014; Creswell & Plano Clark, 2011; Hesse-Biber, 2012; Ivankova, Creswell, & Stick, 2006; Kerrick, Cumberland, Church-Nally, & Kemelgor, 2014; Klassen & Durksen, 2014; Koon, Frick, & Igo, 2009; Molina-Azorín, Tarí, Pereira-Moliner, López-Gamero, & Pertusa-Ortega, 2015; Venkatesh et al., 2013). This is important because it allows for triangulation and verification of results. In this respect, RQ2 is an attempt to quantify the impact of crowdfunding on SMEs' reliance on traditional funding, segmented by funding type, whereas the qualitative answer to RQ3 will be broader and more general. RQ2 provides a narrower, statistical perspective and example of how crowdfunding might influence traditional funding, whereas RQ3 provides a more

explanatorily power assessment of the impact of crowdfunding. While this could be assessed in a quantitative way, the use of the qualitative method provides information regarding the impact of crowdfunding.

RQ4: In the context of crowdfunding, what are potential regulatory gaps that could lead to systematic risk?

RQ 4.1: In the context of crowdfunding, what is the relative importance of potential regulatory gaps that could lead to systematic risk?

RQ 4.2: In the context of crowdfunding, what are the costs and benefits of closing potential regulatory gaps that could lead to systematic risk?

The fourth research question has been further subdivided. As stated, RQ4 is designed simply to identify the domain of potential regulatory gaps. The first sub-research question associated with RQ4 is designed to elicit expert opinions about the importance of these gaps. The first sub-research question associated with RQ4 is designed to elicit expert opinions about the costs and benefits of closing these gaps. These questions are related to RQ4 because the qualitative approach will allow for the identification of the gaps, per the experts, prior to their expression of importance and because information will be provided regarding regulatory gaps because regulations for crowdfunding are largely the same as they are for traditional banking. Information from experts would enable the development of crowdfunding regulations.

3.2.3 Blending of Research Question Results

As noted in chapter 3.2.1 and chapter 3.2.2 RQ1 and RQ4 are single-methods questions (Berger, 2013; Bernard & Bernard, 2012). RQ1 is designed to be answered solely by quantitative means, and RQ4 is designed to be answered solely by qualitative means. However, RQ2 (a quantitative research question) and RQ3 (a qualitative research question) are designed to be blended using the concurrent transformational approach (Chadwick et al., 2014; Creswell & Plano Clark, 2011; Hesse-Biber, 2012; Ivankova et al., 2006; Kerrick et al., 2014; Klassen & Durksen, 2014; Koon et al., 2009; Molina-Azorín et al., 2015; Venkatesh et al., 2013). A more detailed discussion of the application of the concurrent transformational approach to RQs 2 and 3 has been provided subsequently in this chapter.

3.3 Determination of the Research Paradigms

Several possible research paradigms and philosophies are available to empirical researchers. Some of the available choices include positivism, post-positivism, critical theory, and constructivism. Each of these paradigms or philosophies has its own ontologies, epistemologies, and applications to the selection of research questions and the framing of empirical research.

Historically, the paradigm of positivism is associated with the work of the Vienna Circle of philosophers and scientists in the early 20th century (Altman, 1991; Gerstman, 2014; Howell, 2016; Kremelberg, 2010; Moore & McCabe, 2009; Urdan, 2016; Vogt & Johnson, 2011). Positivism was somewhat related to, and inspired by, empiricism in terms of its emphasis on the importance of measurement; however, to classical empiricism, positivism added an emphasis on formal logic as the means through which reality could be known (Altman, 1991; Gerstman, 2014; Howell, 2016; Kremelberg, 2010; Moore & McCabe, 2009; Urdan, 2016; Vogt & Johnson, 2011). Indeed, to positivists, there is no reality outside the domains of measurement and logic (Altman, 1991; Gerstman, 2014; Howell, 2016; Kremelberg, 2010; Moore & McCabe, 2009; Urdan, 2016; Vogt & Johnson, 2011).

Post-positivism is a research paradigm that acquired prominence after the 1950s, by which time the formal research program of positivism had already collapsed (Altman, 1991; Gerstman, 2014; Howell, 2016; Kremelberg, 2010; Moore & McCabe, 2009; Urdan, 2016; Vogt & Johnson, 2011). Post-positivism does not assume that reality does not exist outside measurement and logic; however, post-positivism includes a methodological commitment to both measurement and logic as useful tools for acquiring knowledge that can be incomplete (Altman, 1991; Gerstman, 2014; Howell, 2016; Kremelberg, 2010; Moore & McCabe, 2009; Urdan, 2016; Vogt & Johnson, 2011). Thus, the post-positivistic researcher utilizes the tools of measurement and logic without claiming that the results of empirical, logical, and mathematical analysis are infallible or even represent an accurate picture of reality (Altman, 1991; Gerstman, 2014; Howell, 2016; Kremelberg, 2010; Moore & McCabe, 2009; Urdan, 2016; Vogt & Johnson, 2011). The post-positivistic researcher is keenly aware of the limits of analysis, but the post-positivistic researcher is also aware that certain kinds of analysis

are indispensable (Altman, 1991; Gerstman, 2014; Howell, 2016; Kremelberg, 2010; Moore & McCabe, 2009; Urdan, 2016; Vogt & Johnson, 2011).

Mathematically testable hypotheses tend to be associated with either positivism or post-positivism; therefore, the quantitative component of the study must be situated in one of these two traditions (Altman, 1991; Gerstman, 2014; Howell, 2016; Kremelberg, 2010; Moore & McCabe, 2009; Urdan, 2016; Vogt & Johnson, 2011). In terms of epistemology, one of the main distinctions between positivism and post-positivism is that positivism purports to establish facts and laws, whereas post-positivism treats the results of hypothesis testing with more circumspection. In terms of analysis, post-positivism allows researchers to apply inference and other interpretative methods in an empirical format without committing researchers to the belief that reality only consists of, or can only be accessed by, what they measure (Kuhn, 1976). In terms of ontology, both positivism and post-positivism draw upon what is measurable, mathematically representable, and analysable (Altman, 1991; Gerstman, 2014; Howell, 2016; Kremelberg, 2010; Moore & McCabe, 2009; Urdan, 2016; Vogt & Johnson, 2011). Because of the contingent and relatively unexplored nature of (a) the predominance of crowdfunding and (b) the relationship between crowdfunding and traditional funding, the quantitative research questions of the study are more amenable to post-positivism. The results of the study might apply solely to Germany or to the SMEs from which data were obtained, and the results might also be determined by unmeasured third variables; therefore, it would be premature to approach the quantitative portion of the study from the philosophical basis of positivism rather than post-positivism.

The qualitative component of the study could be approached from the philosophical bases of critical theory or constructivism, which are the major traditions associated with qualitative inquiry. Critical theory is more historically and structurally oriented in nature, whereas constructivism is more amenable to synthesizing the results of individual contributions into a limited understanding of a phenomenon (Englander, 2012). Because of the absence of a historical dimension in the research questions and approach, and the absence of an overtly political lens of inquiry, constructivism appears more suited than critical theory to the qualitative components of the study.

The specific type of constructivism applied within the study is descriptive phenomenology. In descriptive phenomenology, according to Englander (2012, p. 25), "the researcher aims at the discovery of the meaning of a particular phenomenon. … The phenomenon is the object of investigation, not the person, although obviously, a person is required to describe the phenomenon." A general approach to phenomenology, which focuses on the primacy of human experiences, would examine not crowdfunding per se, but, rather, the opinions that Delphi experts held about crowdfunding. Delphi experts were important in this context because they could provide descriptions. However, in keeping with the post-positivistic paradigm applied elsewhere in the study, the objective was to understand a phenomenon—that of crowdfunding—more so than to centre the experiences of experts with knowledge about that phenomenon. For this reason, the type of phenomenological paradigm applied in the study was that of descriptive phenomenology, not general phenomenology (Englander, 2012).

Kuhn (1976) described a paradigm as a means of viewing the world. As such, a paradigm is more general than any specific research approach, methodology, or design. A paradigm, according to Kuhn, establishes the first principles of an inquiry, among which are the articulation of expectations about (a) what exists and (b) how what exists can be measured. Clearly, the phenomenon of crowdfunding can be approached through any number of paradigms. In the context of this study, the selection of a post-positivistic paradigm means the epistemological and ontological assumption that crowdfunding is an objectively measurable type of funding that can be mathematically understood in terms of its relations with other kinds of funding (Kuhn, 1976). Thus, to frame crowdfunding as part of a post-positivistic, quantitative research paradigm is to make a research commitment to mathematical analysis, particularly statistical analysis, as a means of understanding crowdfunding.

As a research paradigm, post-positivism allows the analysis of crowdfunding from a statistical perspective (Kuhn, 1976). The advantages of this paradigm have been discussed subsequently in this chapter. However post-positivism alone does not address certain important questions about crowdfunding that are necessarily based in opinion, conjecture, and speculation (Kuhn, 1976). In this context, a paradigm other than post-positivism is necessary to more fully explore the phenomenon of

crowdfunding (Englander, 2012). The selection of descriptive phenomenology allows such an exploration through the application of the Delphi Methodology, whose details have been discussed subsequently in this chapter.

3.4 Determination of Research Approach and Methodology

The purpose of this section of the chapter is to provide an overview of the research approach of the study. The overview has been divided into four sections. The first and longest section is a discussion of quantitative and qualitative research approaches. The second section is an overview of mixed methods. The third section consists of a justification of why both quantitative and qualitative research approaches were necessary for the current study. The fourth section consists of a justification of why the concurrent transformation mixed-methods approach was appropriate for the study in instance (RQs 2 and 3), whereas the quantitative and qualitative findings of the study were not blended in the instances of RQs 1 and 4.

3.4.1 Determination of Quantitative and Qualitative Research Approaches

Methodologies can be distinguished between each other in numerous ways. According to the philosopher Ludwig Wittgenstein (2010), one common approach to differentiation involves finding hard boundaries between the phenomena under investigation, whereas another approach involves soft boundaries. In a well-known metaphor, Wittgenstein suggested that a photograph of a large family would reveal that there would be overlapping features shared by certain members of the family, but that no specific feature would be unique to all family members. Wittgenstein used the same general approach to describe the problem of defining games: “We see a complicated network of similarities overlapping and crisis-crossing. What still counts as a game and what no longer does? Can you give the boundary? No. You can draw one…” (Wittgenstein, 2010, p. 66). The differences between quantitative and qualitative research, as specified by McNabb (2010, p, 225) in Table 1 below, can be considered in light of Wittgenstein’s comments about boundaries.

Table 1: Differences between Quantitative and Qualitative Research (Source: McNaab, 2010)

Philosophical Foundations	Qualitative Research Designs	Quantitative Research Designs
Ontology (perceptions of reality)	Researchers assume that multiple, subjectively derived realities can coexist.	Researchers assume that a single, objective world exists.
Epistemology (roles for the researcher)	Researchers commonly assume that they must interact with their studied phenomena.	Researchers assume that they are

		independent from the variables under study.
Axiology (researchers' values)	Researchers overtly act in a value-laden and biased fashion.	Researchers overtly act in a value-free and unbiased manner.
Rhetoric (language styles)	Researchers often use personalized, informal, and context-laden language.	Researchers most often use impersonal, formal, and rule-based text.
Procedures (as employed in research)	Researchers tend to apply induction, multivariate, and multi-process interactions, following context-laden methods.	Researchers tend to apply deduction, limited cause-and-effect relationships, with context-free methods.

Note: As specified by McNabb (2010, p. 225)

Quantitative and qualitative research can, in Wittgenstein's metaphor, be considered two somewhat overlapping families in which some features of qualitative research can be found in the quantitative family and vice-versa. While there are indeed distinctions between these two approaches to research, they are not necessarily hard distinctions. Even the use of mathematics, often considered the main hallmark of quantitative research (Balnaves & Caputi, 2012; Creswell, 2015; McNabb, 2010), does not serve as an absolute distinction between quantitative and qualitative research: "numbers are often used in qualitative research, and quantitative inquiry includes elements of quality" (Holloway & Wheeler, 2013, p. 28). Thus, explaining the distinction between quantitative and qualitative research requires acknowledging the possibility that the boundaries between these two approaches to research are not hard; no one set of explanations can apply to all examples of quantitative methods to the exclusion of qualitative methods, and vice-versa.

Nonetheless, as Wittgenstein (2010) argued, even overlapping phenomena are distinct enough to allow an examination of their differences. McNabb (2010, p. 225) attempted to draw a distinction between qualitative and quantitative designs on the basis of five philosophical foundations, those of (a) ontology, (b) epistemology, (c) axiology, (d) rhetoric, and (e) procedures. McNabb proposed specific differences between quantitative and qualitative methodology in each of these five foundations. These foundations, presented in Table 1 above, offer a systematic means of examining both

the differences and similarities between quantitative and qualitative research. Of the foundations, ontology comes first. In philosophy, ontology refers to understanding existence or being (Castilho & Lopes, 2010; Grossman, 1992; Yan, Zanni-Merk, Cavallucci, & Collet, 2014); according to McNabb (2010), one of the main differences between quantitative and qualitative research is that quantitative researchers assume the existence of a single and objective world whereas qualitative researchers are committed to a more subjective understanding of what is and what can be. However, on closer inspection, this distinction seems more of a methodological than an ontological distinction. For example, a quantitative researcher working with a measure of the importance of crowdfunding s not committed to believing that such importance exists only in terms of the items measured in the scale. Rather, the quantitative researcher working with an importance of crowdfunding scale has no empirical or epistemological basis for exploring importance outside the constraints of the scale.

Among scientists, methodological naturalism is the term used to indicate that the domain of science is nature (Hartner, 2013). There might well be supernatural phenomena, but these phenomena cannot be admitted into the domain of science, even if they exist; methodological naturalism is thus not a theory of what is, but rather a theory of how to study nature (Lacey, 2013). In some ways, methodological naturalism applies to the point that McNabb (2010) was trying to make about ontology. By the nature of their tools and methodology, quantitative researchers are locked in to the examination of specific aspects of phenomena (Balnaves & Caputi, 2001; Bernard & Bernard, 2012; Brink, Van der Walt, & Van Rensburg, 2005; Cassell & Symon, 2004; Creswell, 2015; Creswell & Plano Clark, 2011; Dantzker & Hunter, 2006; Davies & Hughes, 2014; Given, 2008; Hesse-Biber, 2012; Jackson, 2015; Leary, 2011; McBurney & White, 2011; McNabb, 2010; Moustakas, 2014; Trochim, Donnelly, & Arora, 2015; Venkatesh et al., 2013; Yin, 2009; Zikmund, 2003). If, for example, there are dimensions of the importance of crowdfunding not measured by a scale, then the quantitative researcher cannot, except in passing, refer to these dimensions.

Quantitative researchers are, perhaps more than qualitative researchers, methodologically constrained in their examination of phenomena (Balnaves & Caputi, 2001; Bernard & Bernard, 2012; Brink et al., 2005; Cassell & Symon, 2004; Creswell, 2015; Creswell & Plano Clark, 2011; Dantzker & Hunter, 2006; Davies & Hughes, 2014; Given, 2008; Hesse-Biber, 2012; Jackson, 2015; Leary, 2011; McBurney & White,

2011; McNabb, 2010; Moustakas, 2014; Trochim et al., 2015; Venkatesh et al., 2013; Yin, 2009; Zikmund, 2003). If so, then the difference that McNabb (2010 attempts to locate in the realm of ontology can be reduced to a procedural and epistemological difference. Both quantitative and qualitative researchers might well believe or not believe in a given kind of reality; what matters is not researchers' beliefs about what exists, but about the way in which researchers can examine what exists (Balnaves & Caputi, 2001; Bernard & Bernard, 2012; Brink et al., 2005; Cassell & Symon, 2004; Creswell, 2015; Creswell & Plano Clark, 2011; Dantzker & Hunter, 2006; Davies & Hughes, 2014; Given, 2008; Hesse-Biber, 2012; Jackson, 2015; Leary, 2011; McBurney & White, 2011; McNabb, 2010; Moustakas, 2014; Trochim et al., 2015; Venkatesh et al., 2013; Yin, 2009; Zikmund, 2003), which is where the more substantive differences between quantitative and qualitative research become apparent.

In philosophy, epistemology concerns the questions of how humans learn and how humans develop confidence in what they know (Bateson, 1972; Campbell, 1988; Dillard, 2000). In the qualitative tradition, there are research designs that are epistemologically broad, in that they provider researchers considerable leeway in building knowledge (Balnaves & Caputi, 2001; Bernard & Bernard, 2012; Brink et al., 2005; Cassell & Symon, 2004; Creswell, 2015; Creswell & Plano Clark, 2011; Dantzker & Hunter, 2006; Davies & Hughes, 2014; Given, 2008; Hesse-Biber, 2012; Jackson, 2015; Leary, 2011; McBurney & White, 2011; McNabb, 2010; Moustakas, 2014; Trochim et al., 2015; Venkatesh et al., 2013; Yin, 2009; Zikmund, 2003). For example, in descriptive phenomenology, "the researcher aims at the discovery of the meaning of a particular phenomenon" (Englander, 2012, pp. 16-17) by speaking to individuals about their experiences or perceptions of that phenomenon. While there have been numerous attempts (Cassell & Symon, 2004; Denzin & Lincoln, 2011; Hesse-Biber, 2012; Klenke, 2008; Miles & Huberman, 1994; Moustakas, 2014) to create a standardized, scientific coding structure for phenomenology, it is still possible for conscientious qualitative researchers to disagree with each other about what Englander called the meaning of a phenomenon. Phenomenologists, like most qualitative researchers, work with human narratives that can be complex and contradictory (Cilesiz, 2011; Husserl, 1970; Jamjoom, 2010; Moustakas, 2014; Paul, 2015; Pettigrew, 2015; Sharif Nia, Ebadi, Lehto, & Peyrovi, 2015; Spiegelberg, 1982),

especially when it comes to complex concepts like the importance of a funding type. Going from the narrative (or, more broadly speaking, the data of qualitative methodology) to the meaning (or the interpretation of the data) is a process that appears at least somewhat more equivocal and challenging (Cilesiz, 2011; Husserl, 1970; Jamjoom, 2010; Moustakas, 2014; Paul, 2015; Pettigrew, 2015; Sharif Nia et al., 2015; Spiegelberg, 1982) than the equivalent process in quantitative research.

Consider the case of the quantitative researcher working with a scale designed to measure the importance of crowdfunding to SMEs. Such a researcher might, for example, want to know whether there is a difference between the importance of crowdfunding as assessed by different groups of SMEs. The researcher will draw a sample, note its limitations, administer the scale, and then apply procedures such as an independent samples t test (Student, 1908) or the Wilcoxon-Mann-Whitney (Mann & Whitney, 1947) test to determine whether there is a significant difference. For the quantitative researcher, the process of going from the data to the interpretation might be more structured and less equivocal than the same process for the qualitative researcher (Balnaves & Caputi, 2001; Bernard & Bernard, 2012; Brink et al., 2005; Cassell & Symon, 2004; Creswell, 2015; Creswell & Plano Clark, 2011; Dantzker & Hunter, 2006; Davies & Hughes, 2014; Given, 2008; Hesse-Biber, 2012; Jackson, 2015; Leary, 2011; McBurney & White, 2011; McNabb, 2010; Moustakas, 2014; Trochim et al., 2015; Venkatesh et al., 2013; Yin, 2009; Zikmund, 2003). In the case of the importance of crowdfunding scale, the researcher might report the t value and p value for the difference in means, and the results might indicate whether there was a statistically significant difference or not.

On the other hand, a qualitative research trying to phenomenologically explore why some groups of SMEs might find crowdfunding to be more important has numerous choices about how to frame, interpret, and present the resulting answer, and also how to explore the underlying data sources. With respect to qualitative methods, researchers have more leeway in selecting narrative snippets, identifying themes in the data, and mapping out an interpretation (Berger, 2013; Bernard & Bernard, 2012; Cassell & Symon, 2004; Davies & Hughes, 2014; Duffy, 1987; Given, 2008). Given the same set of data, research questions, and design details, two quantitative researchers are perhaps more likely to generate the same results than are qualitative researchers handed the same materials (Balnaves & Caputi, 2001; Bernard & Bernard, 2012; Brink

et al., 2005; Cassell & Symon, 2004; Creswell, 2015; Creswell & Plano Clark, 2011; Dantzker & Hunter, 2006; Davies & Hughes, 2014; Given, 2008; Hesse-Biber, 2012; Jackson, 2015; Leary, 2011; McBurney & White, 2011; McNabb, 2010; Moustakas, 2014; Trochim et al., 2015; Venkatesh et al., 2013; Yin, 2009; Zikmund, 2003). To make this claim is not to argue that the results of quantitative research are somehow better results; rather, the argument is that the output of quantitative research is more constrained, which, at least in some ways, makes it less procedurally ambiguous. There is only one way of conducting an independent samples t test, for example (technically, two, if one counts the non-parametric Wilcoxon-Mann-Whitney test as an alternative), but there could be numerous ways of arriving at conclusions about the meaning of the phenomenon of crowdfunding as used by SMEs. This distinction between quantitative and qualitative research is therefore primarily about epistemology and procedures (Balnaves & Caputi, 2001; Bernard & Bernard, 2012; Brink et al., 2005; Cassell & Symon, 2004; Creswell, 2015; Creswell & Plano Clark, 2011; Dantzker & Hunter, 2006; Davies & Hughes, 2014; Given, 2008; Hesse-Biber, 2012; Jackson, 2015; Leary, 2011; McBurney & White, 2011; McNabb, 2010; Moustakas, 2014; Trochim et al., 2015; Venkatesh et al., 2013; Yin, 2009; Zikmund, 2003). Both the quantitative and qualitative researcher are making specific epistemological assumptions. A researcher working with an importance of crowdfunding scale is assuming that the scale has construct validity, that is, that the scale actually measures the phenomenon that it is supposed to study (which might or might not be the case).

However, the mere use of a statistical procedure as opposed to a qualitative analysis does not mean that the quantitative researcher is any more or less equipped to understand or interpret reality (Balnaves & Caputi, 2001; Bernard & Bernard, 2012; Brink et al., 2005; Cassell & Symon, 2004; Creswell, 2015; Creswell & Plano Clark, 2011; Dantzker & Hunter, 2006; Davies & Hughes, 2014; Given, 2008; Hesse-Biber, 2012; Jackson, 2015; Leary, 2011; McBurney & White, 2011; McNabb, 2010; Moustakas, 2014; Trochim et al., 2015; Venkatesh et al., 2013; Yin, 2009; Zikmund, 2003). In the social sciences, both the quantitative and qualitative researcher are equally constrained by their assumptions (Balnaves & Caputi, 2001; Bernard & Bernard, 2012; Brink et al., 2005; Cassell & Symon, 2004; Creswell, 2015; Creswell & Plano Clark, 2011; Dantzker & Hunter, 2006; Davies & Hughes, 2014; Given, 2008; Hesse-Biber, 2012; Jackson, 2015; Leary, 2011; McBurney & White, 2011; McNabb,

2010; Moustakas, 2014; Trochim et al., 2015; Venkatesh et al., 2013; Yin, 2009; Zikmund, 2003). The epistemological assumptions of the quantitative researcher can be described as front-loaded (Altman, 1991; Gerstman, 2014; Howell, 2016; Kremelberg, 2010; Moore & McCabe, 2009; Urdan, 2016; Vogt & Johnson, 2011). In administering and interpreting the importance of crowdfunding scale, for example, the quantitative researcher is reposing trust in the scale developer's assumptions about how to measure the importance of crowdfunding. In using narrative data to understand why different groups of SMEs might ascribe different kinds or levels of importance to crowdfunding, the qualitative researcher's epistemological work is back-loaded (Berger, 2013; Bernard & Bernard, 2012; Cassell & Symon, 2004; Davies & Hughes, 2014; Duffy, 1987; Given, 2008); it is after the process of research, in the process of interpretation, that the qualitative researcher constructs meaning. In other words, meaning construction is common to both quantitative and qualitative researcher, but the specific times at which and ways in which meaning is constructed differ across these two approaches (Balnaves & Caputi, 2001; Bernard & Bernard, 2012; Brink et al., 2005; Cassell & Symon, 2004; Creswell, 2015; Creswell & Plano Clark, 2011; Dantzker & Hunter, 2006; Davies & Hughes, 2014; Given, 2008; Hesse-Biber, 2012; Jackson, 2015; Leary, 2011; McBurney & White, 2011; McNabb, 2010; Moustakas, 2014; Trochim et al., 2015; Venkatesh et al., 2013; Yin, 2009; Zikmund, 2003).

Ultimately, only the categories of epistemology and procedures (as they appear in McNabb, 2010's effort to differentiate between quantitative and qualitative research) differ substantially between quantitative and qualitative designs, and these differences could be relatively minimal depending on any two studies that are selected for comparison. Quantitative researchers have less methodological room to examine reality; the choice of a scale and statistical procedure tend to lock quantitative researchers into a specific means of approaching and interpreting data (Balnaves & Caputi, 2001; Bernard & Bernard, 2012; Brink et al., 2005; Cassell & Symon, 2004; Creswell, 2015; Creswell & Plano Clark, 2011; Dantzker & Hunter, 2006; Davies & Hughes, 2014; Given, 2008; Hesse-Biber, 2012; Jackson, 2015; Leary, 2011; McBurney & White, 2011; McNabb, 2010; Moustakas, 2014; Trochim et al., 2015; Venkatesh et al., 2013; Yin, 2009; Zikmund, 2003). On the other hand, because of the epistemological and procedural differences discussed earlier, qualitative researchers have greater leeway in how they handle and interpret data (Balnaves & Caputi, 2001;

Bernard & Bernard, 2012; Brink et al., 2005; Cassell & Symon, 2004; Creswell, 2015; Creswell & Plano Clark, 2011; Dantzker & Hunter, 2006; Davies & Hughes, 2014; Given, 2008; Hesse-Biber, 2012; Jackson, 2015; Leary, 2011; McBurney & White, 2011; McNabb, 2010; Moustakas, 2014; Trochim et al., 2015; Venkatesh et al., 2013; Yin, 2009; Zikmund, 2003).

Quantitative and qualitative research can both be considered in light of their relationship to theory. According to Henderikus (2010), a theory "is normally aimed at providing explanatory leverage on a problem, describing innovative features of a phenomenon or providing predictive utility" (Henderikus, 2010, p. 1498). Both quantitative and qualitative designs bear similar relations to theory, and both are indispensable in forming, testing, and expanding theories in psychology in particular and the social sciences in general. What matters more than trying to arrive at a generic evaluation of the merits of these two kinds of designs is to determine how, when, why, and where to apply them, based on the identified problem of the study.

3.4.2 Determination of Mixed Methods Approach

In mixed methods, researchers work with both quantitative and qualitative methods (Creswell & Plano Clark, 2011; Hesse-Biber, 2012; Holden, Eriksson, Andreasson, Williamsson, & Dellve, 2015; Ivankova et al., 2006; Tazghini & Siedlecki, 2013; Venkatesh et al., 2013; Zhang, De Pablos, & Xu, 2014). The main reason for taking such an approach is that, given some of the differences between quantitative and qualitative approaches discussed in the previous section of this chapter, quantitative and qualitative approaches are likely to illuminate phenomena in different ways, which, in theory, means that the combination of these approaches is likely to be more powerful than either approach implemented in isolation (Creswell & Plano Clark, 2011; Hesse-Biber, 2012; Holden et al., 2015; Ivankova et al., 2006; Tazghini & Siedlecki, 2013; Venkatesh et al., 2013; Zhang et al., 2014). Table 2 below contains an overview (CIRT, 2018, p. 1) of the different types of mixed-methods designs.

Table 2: Mixed Methods Designs (Source: CIRT, 2018)

Mixed-Methods Design	Description
Sequential Explanatory	This method is a two phase design where the quantitative data is collected first followed by qualitative data collection. The purpose is to

	use the qualitative results to further explain and interpret the findings from the quantitative phase. For example, a survey may be used to collect quantitative data from a larger group. Members of that group may then later be selected for interviews where they can explain and offer insights into their survey answers.
Sequential Exploratory	This method is also a two phase design. The qualitative data is collected first, followed by collection and analysis of quantitative data. The purpose of this design is to develop an instrument (such as a survey), to develop a classification for testing, or to identify variables. Using the information from journals or diaries to develop an appropriate survey to administer to a larger sample would be an example of this design.
Sequential Transformative	This type of design also has two phases but allows the theoretical perspective of the researcher to guide the study and determine the order of data collection. The results from both methods are integrated together at the end of the study during the interpretation phase.
Concurrent Triangulation	In this design, qualitative and quantitative data are collected concurrently in one phase. The data is analysed separately and then compared and/or combined. An example would be if a researcher collected survey data and interview data at the same time and compared the results. This method is used to confirm, cross-validate or corroborate findings. It is often used to overcome a weakness in one method with the strengths of another. It can also be useful in expanding quantitative data through collection of open-ended qualitative data.
Concurrent Nested / Embedded	This design includes one phase of data collection in which priority is given to one approach that guides the project, while the other approach is embedded or nested into the project and provides a supporting role. The embedded approach is often addressing a different question then the primary research question.
Concurrent Transformative Design	This method involves concurrent data collection of both quantitative and qualitative data. It is guided by a theoretical perspective in the purpose or research question of the study. This perspective guides all methodological choices and the purpose is to evaluate that perspective at different levels of analysis.

Note: As specified by CIRT (2018, p. 1)

As noted earlier, the study is necessarily divided into quantitative and qualitative components, necessitating a mixed-methods approach.

With respect to the first research objective, that of evaluating and determining the importance of crowdfunding and crowdfunding platforms as financing alternatives for SMEs, one straightforward but explanatorily powerful measure of the importance of crowdfunding is the relative contribution of crowdfunding to the overall funding of a company, which is best measured through quantitative means. SMEs can certainly be asked qualitative questions about how and why crowdfunding is important to them, but

the answers to such questions would be unlikely to align as closely with the first research objective, in which the phenomenon of importance appears to be most accurately measurable through quantitative-only means (Creswell & Plano Clark, 201).

The second research objective was as follows: To evaluate and determine the potential impact on the traditional financing market of a shift in SME financing demand from financial institutions to crowdfunding platforms. This research objective appears to be amenable to both quantitative and qualitative approaches. From a quantitative perspective, the concept of a shift in financing appears to be best determining by quantifying the existence of a trade-off between

(a) the relative contribution of crowdfunding to the overall funding of an SME and

(b) the relative contribution of other kinds of traditional funding methods. While useful, such a quantitative approach would not furnish a complete answer to the second research question, because the conceptual variable of impact can be analysed in qualitative ways as well. In particular, experts might reach several different conclusions about what kinds of impacts crowdfunding might exert, how traditional financing agents might react, and other phenomena that are not susceptible to simple measurement and that have a strongly subjective dimension. For this reason, the second research objective of the study appears to require both quantitative and qualitative approaches (Tazghini & Siedlecki, 2013; Venkatesh et al., 2013; Zhang et al., 2014).

The third research objective of the study was as follows: To identify and assess potential regulatory gaps that could lead to systematic risk. In this research objective, words such as potential and could, and the overall future orientation of the research objective (that is, its objective of assessing a future, possible state of affairs) imply the usefulness of a qualitative approach. Because of the high degree of speculation and subjectivity in the third research question, it appears particularly well-suited to being answered by qualitative approaches (Ivankova et al., 2006).

3.4.3 Justification and Validation of Specific Mixed Methods

Table 2 above contains an overview of six commonly recognized types of mixed-methods designs. In this study, concurrent triangulation applied to the results of RQs

1 and 4. For reasons explained more thoroughly above, RQ1 was explored through quantitative means, whereas RQ4 was explored through qualitative means. These explorations were carried out concurrently, that is, at the same time, with the researcher's statistical analysis for RQ1 taking place at the same time, albeit methodologically separated from, the Delphi method as applied to RQ4. RQs 1 and 4 were therefore answered concurrently and without any interlinkage; therefore, this aspect of the study can best be described as conforming to the concurrent triangulation design.

A concurrent transformational design was applied to the blending of the quantitative findings from RQ2 and the qualitative findings from RQ3. The justification of the concurrent transformational design for blending the findings from RQs 2 and 3 can be provided in the context of CIRT's (2018, p. 1) definition of this particular mixed-methods design: "This method involves concurrent data collection of both quantitative and qualitative data. It is guided by a theoretical perspective in the purpose or research question of the study. This perspective guides all methodological choices and the purpose is to evaluate that perspective at different levels of analysis" (CIRT, 2018, p. 1). The theoretical presumption with respect to RQs 2 and 3 is that (a) there is in fact some kind of relationship between SME reliance on crowdfunding and SME reliance on other kinds of funding and (b) there are likely to be many possible impacts of shifts in SME reliance on crowdfunding. The best way of honouring both of these theoretical assumptions was to apply concurrent transformational design (Holden, Eriksson, Andreasson, Williamsson, & Dellve, 2015; Ivankova et al.).

3.5 Sampling Processes

While the sampling for the individual research questions is shown in the next section, this section contains information regarding the overall sampling process. In general, sampling was conducted by Survey Sampling International (SSI). Thus, sampling processes were conducted by survey sampling for quantitative data. As the qualitative data were gathered by the Delphi method, both quantitative data and qualitative data were obtained by the non-probability sampling method. This type of sampling allows for a representation of the population. This sampling is beneficial because it enables the researcher to select certain criteria (as done in the individual research questions), enabling a specific sample to be drawn. While the results of the study cannot

necessarily be generalized to the population, they may be used to provide contributions to existing literature regarding how the population of interest may react.

3.6 Quantitative and Qualitative Processes

To gater and evaluate the necessary quantitative data the assistance of SSI was used. SSI was contracted to contact German SMEs, defined as

(a) companies incorporated and mainly located in Germany and
(b) companies with annual 2018 revenues between €500,000 and €10,000,000 (turnover to max.50 Million),

as this is the official European Union definition for German SMEs published by the Lfm Bonn (Institute of medium sized Enterprises research)

Because SMEs are likely to be in different stages of funding at different times, participants were asked to provide compressed annual information. Thus, each participant in the study sampled was asked to complete a financing instrument resembling Table for the different kinds of funding and funding stages. The data provided by SSI was double-checked by an individual sample test through comparison with the official balance sheet statements collected via Bloomberg. These funding amounts were transformed into ratios to ensure comparability of the data. During the data collection process, the author identified an unexpected deviation of the standard normal distribution of fund raising. The author was able to identify that the common feature of the SMEs with a difference is, that they are technology companies. Technology company in this context is to understand as a company which is mainly active on the online market and not a consumer good producer. These companies have a higher demand to innovative funding mechanisms as classical non-technology companies. Thus, the study separated the analysis of technology and non-technology companies as further described in the following chapter. The quantitavie analyses occurred using the independent sample t-test, Wilcoxon-Mann-Whitney U test, and the ordinary least squares.

The Qualitative Process was based on the Delphi Method. On the basis of the Delphi Method, two stages of questions were posed to subject-matter experts assembled to

answer the qualitative questions of the study. The following figure outlines the applied process.

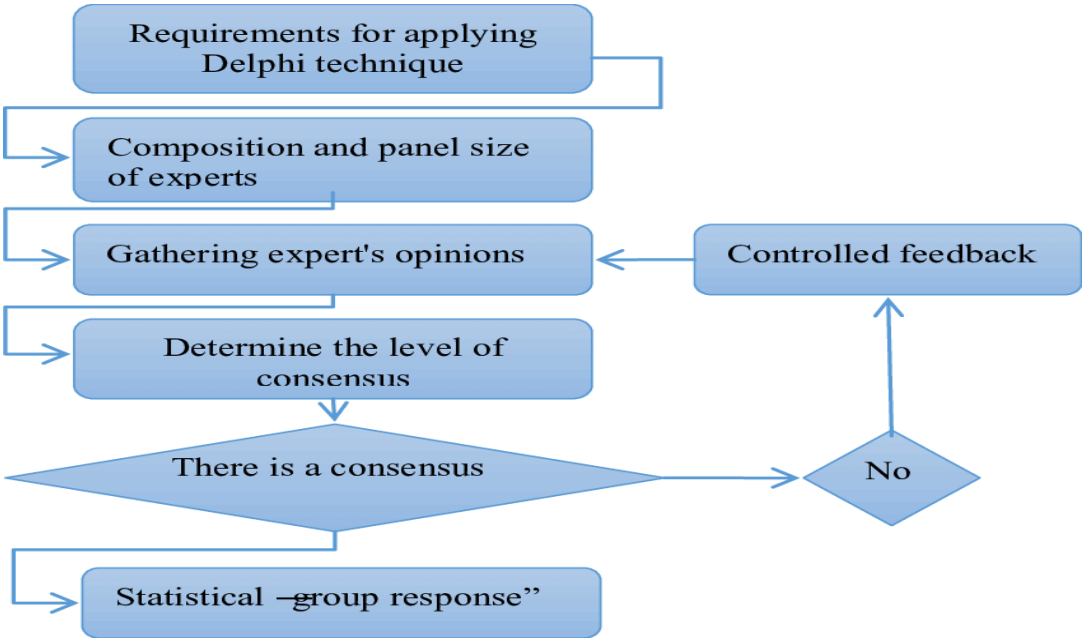

Figure 4: Delphie Process (Source: Author)

The following classes of individuals were considered appropriate informants:

- Venture capitalists and other stakeholders in investment processes targeting SMEs in particular
- Technology vendors from crowdfunding platforms
- Professors and other academic experts on funding and, in particular, crowdfunding

Individuals fitting any of the profiles above were solicited with the assistance of SSI. Once identified and qualified, willing participants established email contact with the researcher and were sent a list of questions to answer (Provided in the Appendix). The research collated these answers into a single document, sent a second wave of questions to the participants, and allowed the participants to see all of the responses from the first wave of the Delphi Method.

3.7 Determination of the Research Design

The purpose of this section of the chapter is to present and defend the research design of the study. The research design has been presented separately for each of the

research questions of the study. Each discussion contains a restatement of the research question and any accompanying hypotheses, notes on sampling and procedures, and notes on analytical and interpretive strategies.

3.7.1 RQ1 Research Design

The first research question of the study was as follows: What is the percentage of crowdfunding in the overall funding of SMEs? No hypotheses have been associated with RQ1, as it is descriptive in nature. RQ1 addresses the first objective of the study, which was to evaluate and determine the importance of crowdfunding and crowdfunding platforms as financing alternatives for SMEs.

For RQ1, data were gathered with the assistance of SSI. SSI was contracted to contact German SMEs, defined as (a) companies incorporated in Germany and (b) companies with annual 2018 revenues between €500,000 and €10,000,000 EUR SMEs are likely to be in different stages of funding at different times, participants were asked to provide annual information. Thus, each participant in the study sampled for RQ1 was asked to complete an instrument resembling Table 3 below.

Table 3: RQ1 Data Structure (Source: Author)

Year	Your Industry	Crowd-funding Amount €	Seed Funding €	Start-up Funding €	Round 1 Funding €	Round 2 Funding €	Round 3 Funding €
2008	IND	CF€	SF€	SU€	R1€	R2€	R3€
2009	IND	CF€	SF€	SU€	R1€	R2€	R3€
2010	IND	CF€	SF€	SU€	R1€	R2€	R3€
2011	IND	CF€	SF€	SU€	R1€	R2€	R3€
2012	IND	CF€	SF€	SU€	R1€	R2€	R3€
2013	IND	CF€	SF€	SU€	R1€	R2€	R3€
2014	IND	CF€	SF€	SU€	R1€	R2€	R3€
2015	IND	CF€	SF€	SU€	R1€	R2€	R3€
2016	IND	CF€	SF€	SU€	R1€	R2€	R3€
2017	IND	CF€	SF€	SU€	R1€	R2€	R3€

Some study participants provided data for one year; others provided data for multiple years. Clearly, German SMEs' reliance on crowdfunding cannot be measured in terms of raw € amounts, because larger SMEs would be more likely to obtain more €. Therefore, once collected, the data in Table 3 were transformed into ratios. For each year, and for all years in aggregate, the total funding amounts for each type (crowdfunding, seed funding, start-up funding, Round 1 funding, Round 2 funding, and

Round 3 funding) were added together. Then, for each year and for all years as an aggregate, the € amounts represented in Table 3 were transformed into percentages instead. Assume, for example, that company A received €100,000 in crowdfunding in 2008 and reported an additional €500,000 in traditional seed funding. Thus, in that year, 16.67% of Company A's total funding would have come from crowdfunding. The transformation of all data into percentages allowed more a more valid comparison across SMEs of different sizes.

As noted earlier, crowdfunding as a percentage of all funding was calculated for the following groups:

- All SMEs in the sample for all years in the sample (2008-2017)
- All SMEs in the sample for each separate year in the sample (2008-2017)
- All technology SMEs in the sample for all years in the sample (2008-2017)
- All technology SMEs in the sample for each separate year in the sample (2008-2017)
- All non-technology SMEs in the sample for all years in the sample (2008-2017)
- All non-technology SMEs in the sample for each separate year in the sample (2008-2017)

The reason for these groupings was as follows. Using an ANOVA with Tukey's post hoc test and subsequently an independent samples t-test for confirmation, it was found that technology companies were significantly different from non-technology in their reliance on crowdfunding. These results have been reported and discussed in Chapter 4.

Table 4 below contains the statistical syntax that was utilized to analyse data for RQ1. These syntax were applied in Stata, a commercial software program designed for statistical analysis and represents the scientific standard (Creswell & Plano Clark, 2011; Hesse-Biber, 2012; Holden, Eriksson, Andreasson, Williamsson, & Dellve, 2015; Ivankova et al., 2006; Tazghini & Siedlecki, 2013; Venkatesh et al., 2013; Zhang, De Pablos, & Xu, 2014). The syntax in the first column created the data structure into which data were pasted (from the Microsoft Excel format in which SSI delivered the data), the middle column contains the statistical commands, the right column contains the syntax used to create graphics.

Table 4: Stata Syntax, RQ1 (Source: Author)

Code for Data Structure	Code for Statistical Procedures	Code for Graphics
set obs 1000 gen year = 0 replace year = 2008 in 1/100 replace year = 2009 in 101/200 replace year = 2010 in 201/300 replace year = 2011 in 301/400 replace year = 2012 in 401/500 replace year = 2013 in 501/600 replace year = 2014 in 601/700 replace year = 2015 in 701/800 replace year = 2016 in 801/900 replace year = 2017 in 901/1000 gen ind = 0 label define ind 1 "Tech" 2 "Manufacturing" 3 "Financial Services" 4 "Retail" 5 "Entertainment" 6 "Education" label value ind label variable ind "Industry" replace ind = 1 in 1/12 replace ind = 1 in 101/112 replace ind = 1 in 201/212 replace ind = 1 in 301/312 replace ind = 1 in 401/412 replace ind = 1 in 501/512 replace ind = 1 in 601/612 replace ind = 1 in 701/712 replace ind = 1 in 801/812 replace ind = 1 in 901/912 gen cfund = 0 label variable cfund "Crowdfunding %" gen seed = 0 label variable seed "Seed Funding %" gen su = 0 label variable su "Startup Funding %" ren ri = 0 label variable ri "Round 1 %" gen rii = 0 label variable rii "Round 2 %" gen riii = 0 label variable riii "Round 2 %" gen techtype = 0 label variable techtype "Technology Company?" label define techtype 1 "Tech Company" 0 "Non-Tech Company" label value techtype	summarize cfund, detail by ind, sort: summarize cfund, detail by techtype, sort: summarize cfund, detail ttest cfund, by(techtype) ranksum cfund, by(techtype) by ind, sort: ci mean cfund anova cfund ind pwmean cfund, over(ind) mcompare(tukey) effects	graph box cfund, over(techtype) mark(1,mlabel(company)) scheme(s1color) name(g1) ciplot cfund, by(techtype) scheme(s1color) name(g2) hist cfund, freq scheme(s1color) name(g3) hist cfund, by(techtype) freq scheme(s1color) name(g4) graph box cfund, over(ind) mark(1,mlabel(company)) scheme(s1color) name(g5)

The first step in the statistical data analysis for RQ1 was to generate detailed descriptive statistics for the variable of **cfund**, which, as noted in Table 4, was defined as the percentage of all funding coming from crowdfunding. The second step in the statistical data analysis for RQ1 was to generate detailed descriptive statistics for the variable of **cfund** as sorted by **ind**, which, as noted in Table 4, was defined as

membership **ind** of six distinct industry groupings. The third step in the statistical data analysis for RQ1 was to generate detailed descriptive statistics for the variable of **cfund** as sorted by **techtype**, which, as noted in Table 4, was defined as being a technology company or not being a technology company. These steps in the data analysis were designed solely to obtain descriptive statistics; the next steps pertained to inferential statistics. The fourth step in the statistical data analysis for RQ1 was to determine whether there was a statistically significant effect of industry on as the percentage of all funding coming from crowdfunding (McNabb 2010, p, 225). The determination of whether there was a statistically significant effect of industry on as the percentage of all funding coming from crowdfunding came through an ANOVA followed by Tukey's post hoc test, with the critical p value in both tests set to .05. In the fifth step in the statistical data analysis, there was a determination of whether there was a statistically significant effect of being a technology company on as the percentage of all funding coming from crowdfunding, which came through an independent samples t-test followed by a Wilcoxon-Mann-Whitney U test, with the critical p value in both tests set to .05. The sixth step in the statistical data analysis for RQ1 was to calculate the 95% confidence interval of the mean of the percentage of all funding coming from crowdfunding on the basis of industry differences (McNabb 2010, p, 225).

3.7.2 RQ2 Research Design

The second research question of the study was as follows: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on other—that is, traditional—forms of financing?

RQ2 has been subdivided into six distinct sub-research questions in order to simplify the statistical analysis. Each of these sub-research questions is based on a comparison of SMEs' reliance on crowdfunding with one of five traditional funding approaches; the sub-research questions were developed by isolating each one of these funding approaches in a distinct sub-research question and also be measuring overall funding in a separate sub-research question. The restatement of RQ2's sub-research questions and their associated hypotheses follows below.

RQ 2.1: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on seed funding?

H 2.10: There is not a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on seed funding.
H 2.1A: There is a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on seed funding.

RQ 2.2: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on start-up funding?
H 2.20: There is not a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on start-up funding.
H 2.2A: There is a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on start-up funding.

RQ 2.3: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on Round 1 funding?
H 2.30: There is not a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on Round 1 funding.
H 2.3A: There is a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on Round 1 funding.

RQ 2.4: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on Round 2 funding?
H 2.40: There is not a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on Round 2 funding.
H 2.4A: There is a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on Round 2 funding.

RQ 2.5: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on Round 3 funding?
H 2.50: There is not a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on Round 3 funding.
H 2.5A: There is a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on Round 3 funding.
RQ 2.6: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on all other kinds of funding combined?

H 2.60: There is not a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on all other kinds of funding combined.
H 2.6A: There is a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on all other kinds of funding combined.

The data for RQ2 were assembled in the same way, and with the same data structure, as the data for RQ1, as presented in Table 3 above. The same statistical syntax was applied to create the data structure for RQ2, but the code for statistical syntax and graphics was different. Table 5 contains the relevant statistical code for RQ2; attention is called to the middle and the last columns as there the differences applied.

Table 5: Stata Syntax, RQ2 (Source: Author)

Code for Data Structure	Code for Statistical Procedures	Code for Graphics
set obs 1000 gen year = 0 replace year = 2008 in 1/100 replace year = 2009 in 101/200 replace year = 2010 in 201/300 replace year = 2011 in 301/400 replace year = 2012 in 401/500 replace year = 2013 in 501/600 replace year = 2014 in 601/700 replace year = 2015 in 701/800 replace year = 2016 in 801/900 replace year = 2017 in 901/1000 gen ind = 0 label define ind 1 "Tech" 2 "Manufacturing" 3 "Financial Services" 4 "Retail" 5 "Entertainment" 6 "Education" label value ind ind label variable ind "Industry" replace ind = 1 in 1/12 replace ind = 1 in 101/112 replace ind = 1 in 201/212 replace ind = 1 in 301/312 replace ind = 1 in 401/412 replace ind = 1 in 501/512 replace ind = 1 in 601/612 replace ind = 1 in 701/712 replace ind = 1 in 801/812 replace ind = 1 in 901/912 gen cfund = 0 label variable cfund "Crowdfunding %" gen seed = 0 label variable seed "Seed Funding %" gen su = 0 label variable su "Startup Funding %" ren ri = 0 label variable ri "Round 1 %" gen rii = 0 label variable rii "Round 2 %" gen riii = 0 label variable riii "Round 2 %" gen techtype = 0 label variable techtype "Technology Company?"	forval i=2008/2017 { regress cfund seed if year==`i' } forval i=2008/2017 { regress cfund su if year==`i' } forval i=2008/2017 { regress cfund ri if year==`i' } forval i=2008/2017 { regress cfund rii if year==`i' } forval i=2008/2017 { regress cfund riii if year==`i' } regress cfund seed hettest regress cfund su hettest regress cfund ri hettest regress cfund rii hettest regress cfund riii hettest regress cfund seed, vce(robust) hettest regress cfund su, vce(robust) hettest regress cfund ri, vce(robust) hettest regress cfund rii, vce(robust) hettest regress cfund riii, vce(robust) hettest	graph twoway (lfitci cfund seed) (scatter cfund seed), scheme(s1color) name(g6) graph twoway (lfitci cfund su) (scatter cfund su), scheme(s1color) name(g7) graph twoway (lfitci cfund ri) (scatter cfund ri), scheme(s1color) name(g8) graph twoway (lfitci cfund rii) (scatter cfund rii), scheme(s1color) name(g9) graph twoway (lfitci cfund riii) (scatter cfund riii), scheme(s1color) name(g10)

```
label define techtype 1 "Tech
Company" 0 "Non-Tech Company"
label value techtype techtype
gen tnonc = seed+su+ri+rii+riii
label variable tnonc "Total Non-
Crowdfunding"
```

3.7.2.1 RQ 2.1 design

The first sub-research question associated with RQ2 was as follows: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on seed funding? The null hypothesis for the first sub-research question associated with RQ2 is that there is not a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on seed funding. The alternative hypothesis for the first sub-research question associated with RQ2 is that there is a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on seed funding.

The first sub-research question associated with RQ2 was first analysed by means of an ordinary least squares (OLS) regression of SMEs' reliance on crowdfunding on SMEs' reliance on seed funding (McNabb 2010). The OLS regression of SMEs' reliance on crowdfunding on SMEs' reliance on seed funding was a base model; this base model was expanded by adding the company's status as a technology company to the syntax provided in Table 5. Table 6 below contains the syntax utilized to add the predictor of technology company to the first sub-research question associated with RQ2. The addition of the predictor of technology company made it possible to determine the predictive power of an SME's reliance on seed funding on an SME's reliance on crowdfunding after the company's industry was taken into account; as being a technology company was associated with higher levels of reliance on crowdfunding, the covariate of being a technology company was necessary to add to the first sub-research question associated with RQ2.

Table 6: Stata Syntax, RQ2.1 (Source: Author)

Code for Data Structure	Code for Statistical Procedures	Code for Graphics

set obs 1000
gen year = 0
replace year = 2008 in 1/100
replace year = 2009 in 101/200
replace year = 2010 in 201/300
replace year = 2011 in 301/400
replace year = 2012 in 401/500
replace year = 2013 in 501/600
replace year = 2014 in 601/700
replace year = 2015 in 701/800
replace year = 2016 in 801/900
replace year = 2017 in 901/1000
gen ind = 0
label define ind 1 "Tech" 2 "Manufacturing" 3 "Financial Services" 4 "Retail" 5 "Entertainment" 6 "Education"
label value ind ind
label variable ind "Industry"
replace ind = 1 in 1/12
replace ind = 1 in 101/112
replace ind = 1 in 201/212
replace ind = 1 in 301/312
replace ind = 1 in 401/412
replace ind = 1 in 501/512
replace ind = 1 in 601/612
replace ind = 1 in 701/712
replace ind = 1 in 801/812
replace ind = 1 in 901/912
gen cfund = 0
label variable cfund "Crowdfunding %"
gen seed = 0
label variable seed "Seed Funding %"
gen su = 0
label variable su "Startup Funding %"
ren ri = 0
label variable ri "Round 1 %"
gen rii = 0
label variable rii "Round 2 %"
gen riii = 0
label variable riii "Round 2 %"
gen techtype = 0
label variable techtype "Technology Company?"
label define techtype 1 "Tech Company" 0 "Non-Tech Company"
label value techtype techtype
gen tnonc = seed+su+ri+rii+riii
label variable tnonc "Total Non-Crowdfunding"
	forval i=2008/2017
	{
	regress cfund seed i.techtype if year==`i'
	}
	regress cfund seed
	hettest
	regress cfund seed, vce(robust)
		graph twoway (lfitci cfund seed) (scatter cfund seed), scheme(s1color) name(g6)

The null hypothesis for the first sub-research question associated with RQ2 will only be rejected if the p values of the seed predictor are < .05 in both the OLS and RSE regression models (McNabb 2010). If there is disagreement in the results of the OLS and RSE regression models for the first sub-research question associated with RQ2,

it will be noted as a limitation of the study in Chapter 5. In addition, the first sub-research question associated with RQ2 will be graphically illustrated by means of a scatterplot of the relationship between the variables of SME reliance on crowdfunding and SME reliance on seed funding.

3.7.2.2 RQ 2.2 design

The second sub-research question associated with RQ2 was as follows: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on startup funding?

The null hypothesis for the second sub-research question associated with RQ2 is that there is not a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on startup funding. The alternative hypothesis for the second sub-research question associated with RQ2 is that there is a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on startup funding. The second sub-research question associated with RQ2 was analysed by means of an ordinary least squares (OLS) regression of SMEs' reliance on crowdfunding on SMEs' reliance on startup funding. The OLS regression of SMEs' reliance on crowdfunding on SMEs' reliance on startup funding was a base model; this base model was expanded by adding the company's status as a technology company to the syntax provided in Table 5. Table 7 below contains the syntax utilized to add the predictor of technology company to the second sub-research question associated with RQ2. The addition of the predictor of technology company made it possible to determine the predictive power of an SME's reliance on startup funding on an SME's reliance on crowdfunding after the company's industry was considered; as being a technology company was associated with higher levels of reliance on crowdfunding, the covariate of being a technology company was necessary to add to the second sub-research question associated with RQ2.

Table 7: Stata Syntax, RQ2.2 (Source: Author)

Code for Data Structure	Code for Statistical Procedures	Code for Graphics

`set obs 1000`
`gen year = 0`
`replace year = 2008 in 1/100`
`replace year = 2009 in 101/200`
	`forval i=2008/2017`
	`{`
		`graph twoway`
		`(lfitci cfund su) (scatter cfund su),`

```
replace year = 2010 in 201/300
replace year = 2011 in 301/400
replace year = 2012 in 401/500
replace year = 2013 in 501/600
replace year = 2014 in 601/700
replace year = 2015 in 701/800
replace year = 2016 in 801/900
replace year = 2017 in 901/1000
gen ind = 0
label define ind 1 "Tech" 2 "Manufacturing" 3
"Financial Services" 4 "Retail" 5 "Entertainment" 6
"Education"
label value ind
label variable ind "Industry"
replace ind = 1 in 1/12
replace ind = 1 in 101/112
replace ind = 1 in 201/212
replace ind = 1 in 301/312
replace ind = 1 in 401/412
replace ind = 1 in 501/512
replace ind = 1 in 601/612
replace ind = 1 in 701/712
replace ind = 1 in 801/812
replace ind = 1 in 901/912
gen cfund = 0
label variable cfund "Crowdfunding %"
gen seed = 0
label variable seed "Seed Funding %"
gen su = 0
label variable su "Startup Funding %"
ren ri = 0
label variable ri "Round 1 %"
gen rii = 0
label variable rii "Round 2 %"
gen riii = 0
label variable riii "Round 2 %"
gen techtype = 0
label variable techtype "Technology Company?"
label define techtype 1 "Tech Company" 0 "Non-Tech
Company"
label value techtype
gen tnonc = seed+su+ri+rii+riii
label variable tnonc "Total Non-Crowdfunding"
regress cfund su
i.techtype if
year==`i'
}
regress cfund su
hettest
regress cfund su,
vce(robust)
scheme(s1color)
name(g7)
```

The null hypothesis for the second sub-research question associated with RQ2 will only be rejected if the p values of the startup predictor are < .05 in both the OLS and RSE regression models. If there is disagreement in the results of the OLS and RSE regression models for the second sub-research question associated with RQ2, it will be noted as a limitation of the study in Chapter 5. In addition, the second sub-research question associated with RQ2 will be graphically illustrated by means of a scatterplot of the relationship between the variables of SME reliance on crowdfunding and SME reliance on start-up funding.

3.7.2.3 RQ 2.3 design

The third sub-research question associated with RQ2 was as follows: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on Round 1 funding? The null hypothesis for the third sub-research question associated with RQ2 is that there is not a statistically significant relationship

between SMEs' reliance on crowdfunding and SMEs' reliance on Round 1 funding. The alternative hypothesis for the third sub-research question associated with RQ2 is that there is a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on Round 1 funding. The third sub-research question associated with RQ2 was analysed by means of an ordinary least squares (OLS) regression of SMEs' reliance on crowdfunding on SMEs' reliance on Round 1 funding. The OLS regression of SMEs' reliance on crowdfunding on SMEs' reliance on Round 1 funding was a base model; this base model was expanded by adding the company's status as a technology company to the syntax provided in Table 5. Table 8 below contains the syntax utilized to add the predictor of technology company to the third sub-research question associated with RQ2. The addition of the predictor of technology company made it possible to determine the predictive power of an SME's reliance on Round 1 funding on an SME's reliance on crowdfunding after the company's industry was considered; as being a technology company was associated with higher levels of reliance on crowdfunding, the covariate of being a technology company was necessary to add to the third sub-research question associated with RQ2.

Table 8: Stata Syntax, RQ2.3 (Source: Author)

Code for Data Structure	Code for Statistical Procedures	Code for Graphics

set obs 1000
gen year = 0
replace year = 2008 in 1/100
replace year = 2009 in 101/200
replace year = 2010 in 201/300
replace year = 2011 in 301/400
replace year = 2012 in 401/500
replace year = 2013 in 501/600
replace year = 2014 in 601/700
replace year = 2015 in 701/800
replace year = 2016 in 801/900
replace year = 2017 in 901/1000
gen ind = 0
label define ind 1 "Tech" 2 "Manufacturing" 3
"Financial Services" 4 "Retail" 5
"Entertainment" 6 "Education"
label value ind
label variable ind "Industry"
replace ind = 1 in 1/12
replace ind = 1 in 101/112
replace ind = 1 in 201/212
replace ind = 1 in 301/312
replace ind = 1 in 401/412
replace ind = 1 in 501/512
replace ind = 1 in 601/612
replace ind = 1 in 701/712
replace ind = 1 in 801/812
replace ind = 1 in 901/912
gen cfund = 0
	forval i=2008/2017
	{
	regress cfund ri
	i.techtype if
	year==`i'
	}
	regress cfund ri
	hettest
	regress cfund ri,
	vce(robust)
		graph twoway
		(lfitci cfund ri)
		(scatter cfund ri),
		scheme(s1color)
		name(g8)

```
label variable cfund "Crowdfunding %"
gen seed = 0
label variable seed "Seed Funding %"
gen su = 0
label variable su "Startup Funding %"
ren ri = 0
label variable ri "Round 1 %"
gen rii = 0
label variable rii "Round 2 %"
gen riii = 0
label variable riii "Round 2 %"
gen techtype = 0
label variable techtype "Technology Company?"
label define techtype 1 "Tech Company" 0 "Non-
Tech Company"
label value techtype
gen tnonc = seed+su+ri+rii+riii
label variable tnonc "Total Non-Crowdfunding"
```

The null hypothesis for the third sub-research question associated with RQ2 will only be rejected if the p values of the Round 1 predictor are < .05 in both the OLS and RSE regression models. If there is disagreement in the results of the OLS and RSE regression models for the third sub-research question associated with RQ2, it will be noted as a limitation of the study in Chapter 6. In addition, the third sub-research question associated with RQ2 will be graphically illustrated by means of a scatterplot of the relationship between the variables of SME reliance on crowdfunding and SME reliance on Round 1 funding.

3.7.2.4 RQ 2.4 design

The fourth sub-research question associated with RQ2 was as follows: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on Round 2 funding? The null hypothesis for the fourth sub-research question associated with RQ2 is that there is not a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on Round 2 funding. The alternative hypothesis for the fourth sub-research question associated with RQ2 is that there is a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on Round 2 funding. The fourth sub-research question associated with RQ2 was analysed by means of an ordinary least squares (OLS) regression of SMEs' reliance on crowdfunding on SMEs' reliance on Round 2 funding. The OLS regression of SMEs' reliance on crowdfunding on SMEs' reliance on Round 2 funding was a base model; this base model was expanded by adding the company's status as a technology company to the syntax provided in Table 5. Table 9 below contains the syntax utilized to add the predictor of technology company to the fourth sub-research question associated with RQ2. The addition of the predictor of

technology company made it possible to determine the predictive power of an SME's reliance on Round 2 funding on an SME's reliance on crowdfunding after the company's industry was considered; as being a technology company was associated with higher levels of reliance on crowdfunding, the covariate of being a technology company was necessary to add to the fourth sub-research question associated with RQ2.

Table 9: Stata Syntax, RQ2.4 (Source: Author)

Code for Data Structure	Code for Statistical Procedures	Code for Graphics

```
set obs 1000
gen year = 0
replace year = 2008 in 1/100
replace year = 2009 in 101/200
replace year = 2010 in 201/300
replace year = 2011 in 301/400
replace year = 2012 in 401/500
replace year = 2013 in 501/600
replace year = 2014 in 601/700
replace year = 2015 in 701/800
replace year = 2016 in 801/900
replace year = 2017 in 901/1000
gen ind = 0
label define ind 1 "Tech" 2 "Manufacturing" 3
"Financial Services" 4 "Retail" 5
"Entertainment" 6 "Education"
label value ind ind
label variable ind "Industry"
replace ind = 1 in 1/12
replace ind = 1 in 101/112
replace ind = 1 in 201/212
replace ind = 1 in 301/312
replace ind = 1 in 401/412
replace ind = 1 in 501/512
replace ind = 1 in 601/612
replace ind = 1 in 701/712
replace ind = 1 in 801/812
replace ind = 1 in 901/912
gen cfund = 0
label variable cfund "Crowdfunding %"
gen seed = 0
label variable seed "Seed Funding %"
gen su = 0
label variable su "Startup Funding %"
ren ri = 0
label variable ri "Round 1 %"
gen rii = 0
label variable rii "Round 2 %"
gen riii = 0
label variable riii "Round 2 %"
gen techtype = 0
label variable techtype "Technology Company?"
label define techtype 1 "Tech Company" 0 "Non-
Tech Company"
label value techtype techtype
gen tnonc = seed+su+ri+rii+riii
label variable tnonc "Total Non-Crowdfunding"
```

```
forval i=2008/2017
{
regress cfund rii
i.techtype if
year==`i'
}
regress cfund rii
hettest
regress cfund rii,
vce(robust)
```

```
graph twoway
(lfitci cfund rii)
(scatter cfund
rii),
scheme(s1color)
name(g9)
```

The null hypothesis for the fourth sub-research question associated with RQ2 will only be rejected if the p values of the Round 2 predictor are < .05 in both the OLS and RSE

regression models. If there is disagreement in the results of the OLS and RSE regression models for the fourth sub-research question associated with RQ2, it will be noted as a limitation of the study in Chapter 5. In addition, the fourth sub-research question associated with RQ2 will be graphically illustrated by means of a scatterplot of the relationship between the variables of SME reliance on crowdfunding and SME reliance on Round 2 funding.

3.7.2.5 RQ 2.5 design

The fifth sub-research question associated with RQ2 was as follows: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on Round 3 funding? The null hypothesis for the fifth sub-research question associated with RQ2 is that there is not a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on Round 3 funding. The alternative hypothesis for the fifth sub-research question associated with RQ2 is that there is a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on Round 3 funding. The fifth sub-research question associated with RQ2 was analysed by means of an ordinary least squares (OLS) regression of SMEs' reliance on crowdfunding on SMEs' reliance on Round 3 funding. The OLS regression of SMEs' reliance on crowdfunding on SMEs' reliance on Round 3 funding was a base model; this base model was expanded by adding the company's status as a technology company to the syntax provided in Table 5. Table 10 below contains the syntax utilized to add the predictor of technology company to the fifth sub-research question associated with RQ2. The addition of the predictor of technology company made it possible to determine the predictive power of an SME's reliance on Round 3 funding on an SME's reliance on crowdfunding after the company's industry was taken into account; as being a technology company was associated with higher levels of reliance on crowdfunding, the covariate of being a technology company was necessary to add to the fifth sub-research question associated with RQ2.

Table 10: Stata Syntax, RQ2.5 (Source: Author)

Code for Data Structure	Code for Statistical Procedures	Code for Graphics

set obs 1000
gen year = 0
replace year = 2008 in 1/100
replace year = 2009 in 101/200
replace year = 2010 in 201/300
replace year = 2011 in 301/400
replace year = 2012 in 401/500
replace year = 2013 in 501/600
replace year = 2014 in 601/700
replace year = 2015 in 701/800
replace year = 2016 in 801/900
replace year = 2017 in 901/1000
gen ind = 0
label define ind 1 "Tech" 2 "Manufacturing" 3 "Financial Services" 4 "Retail" 5 "Entertainment" 6 "Education"
label value ind ind
label variable ind "Industry"
replace ind = 1 in 1/12
replace ind = 1 in 101/112
replace ind = 1 in 201/212
replace ind = 1 in 301/312
replace ind = 1 in 401/412
replace ind = 1 in 501/512
replace ind = 1 in 601/612
replace ind = 1 in 701/712
replace ind = 1 in 801/812
replace ind = 1 in 901/912
gen cfund = 0
label variable cfund "Crowdfunding %"
gen seed = 0
label variable seed "Seed Funding %"
gen su = 0
label variable su "Startup Funding %"
ren ri = 0
label variable ri "Round 1 %"
gen rii = 0
label variable rii "Round 2 %"
gen riii = 0
label variable riii "Round 2 %"
gen techtype = 0
label variable techtype "Technology Company?"
label define techtype 1 "Tech Company" 0 "Non-Tech Company"
label value techtype techtype
gen tnonc = seed+su+ri+rii+riii
label variable tnonc "Total Non-Crowdfunding"
	forval i=2008/2017
	{
	regress cfund riii i.techtype if year==`i'
	}
	regress cfund riii
	hettest
	regress cfund rii, vce(robust)
		graph twoway (lfitci cfund riii) (scatter cfund riii), scheme(s1color) name(g10)

The null hypothesis for the fifth sub-research question associated with RQ2 will only be rejected if the p values of the Round 3 predictor are < .05 in both the OLS and RSE regression models. If there is disagreement in the results of the OLS and RSE regression models for the fifth sub-research question associated with RQ2, it will be noted as a limitation of the study in Chapter 5. In addition, the fifth sub-research question associated with RQ2 will be graphically illustrated by means of a scatterplot of the relationship between the variables of SME reliance on crowdfunding and SME reliance on Round 3 funding.

3.7.2.6 RQ 2.6 design

The sixth sub-research question associated with RQ2 was as follows: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on total non-crowdfunding? The null hypothesis for the sixth sub-research question associated with RQ2 is that there is not a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on total non-crowdfunding. The alternative hypothesis for the sixth sub-research question associated with RQ2 is that there is a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on total non-crowdfunding. The sixth sub-research question associated with RQ2 was analysed by means of an ordinary least squares (OLS) regression of SMEs' reliance on crowdfunding on SMEs' reliance on total non-crowdfunding. The OLS regression of SMEs' reliance on crowdfunding on SMEs' reliance on total non-crowdfunding was a base model; this base model was expanded by adding the company's status as a technology company to the syntax provided in Table 5. Table 11 below contains the syntax utilized to add the predictor of technology company to the sixth sub-research question associated with RQ2. The addition of the predictor of technology company made it possible to determine the predictive power of an SME's reliance on total non-crowdfunding on an SME's reliance on crowdfunding after the company's industry was considered; as being a technology company was associated with higher levels of reliance on crowdfunding, the covariate of being a technology company was necessary to add to the sixth sub-research question.

Table 11: Stata Syntax, RQ2.6 (Source: Author)

Code for Data Structure	Code for Statistical Procedures	Code for Graphics

set obs 1000
gen year = 0
replace year = 2008 in 1/100
replace year = 2009 in 101/200
replace year = 2010 in 201/300
replace year = 2011 in 301/400
replace year = 2012 in 401/500
replace year = 2013 in 501/600
replace year = 2014 in 601/700
replace year = 2015 in 701/800
replace year = 2016 in 801/900
replace year = 2017 in 901/1000
gen ind = 0
label define ind 1 "Tech" 2 "Manufacturing" 3
"Financial Services" 4 "Retail" 5
"Entertainment" 6 "Education"
	forval i=2008/2017
	{
	regress cfund tnonc
	i.techtype if
	year==`i'
	}
	regress cfund tnonc
	hettest
	regress cfund
	tnonc, vce(robust)
		graph twoway
		(lfitci cfund
		tnonc) (scatter
		cfund tnonc),
		scheme(s1color)
		name(g11)

```
label value ind ind
label variable ind "Industry"
replace ind = 1 in 1/12
replace ind = 1 in 101/112
replace ind = 1 in 201/212
replace ind = 1 in 301/312
replace ind = 1 in 401/412
replace ind = 1 in 501/512
replace ind = 1 in 601/612
replace ind = 1 in 701/712
replace ind = 1 in 801/812
replace ind = 1 in 901/912
gen cfund = 0
label variable cfund "Crowdfunding %"
gen seed = 0
label variable seed "Seed Funding %"
gen su = 0
label variable su "Startup Funding %"
ren ri = 0
label variable ri "Round 1 %"
gen rii = 0
label variable rii "Round 2 %"
gen riii = 0
label variable riii "Round 2 %"
gen techtype = 0
label variable techtype "Technology Company?"
label define techtype 1 "Tech Company" 0 "Non-
Tech Company"
label value techtype techtype
gen tnonc = seed+su+ri+rii+riii
label variable tnonc "Total Non-Crowdfunding"
```

The null hypothesis for the sixth sub-research question associated with RQ2 will only be rejected if the p values of the total non-crowdfunding predictor are < .05 in both the OLS and RSE regression models. If there is disagreement in the results of the OLS and RSE regression models for the sixth sub-research question associated with RQ2, it will be noted as a limitation of the study in Chapter 5. In addition, the sixth sub-research question associated with RQ2 will be graphically illustrated by means of a scatterplot of the relationship between the variables of SME reliance on crowdfunding and SME reliance on total non-crowdfunding.

3.7.3 RQ3 Research Design

The third research question of the study was as follows: What is the potential impact on the traditional financing market of a shift in SME financing demand from financial institutions to crowdfunding platforms? RQ3 was answered through the use of the Delphi Method, which has been summarized in Table 12 below, which contains Linstone and Turoff's (2002, p. 4) description of when the Delphi Method is justified and what the Delphi Method consists of. This information complements Linstone and Turoff's discussion of the rationales for, and applications of, the Delphi Method.

Delphi may be characterized as a method for structuring a group communication process so that the process is effective in allowing a group of individuals, as a whole, to deal with a complex problem. To accomplish this "structured communication" there is provided: some feedback of individual contributions of information and knowledge; some assessment of the group judgment or' view; some opportunity for individuals to revise views; and some degree of anonymity for the individual responses. (Linstone & Turoff, 2002, p. 3). The following table created according Linstone & Turoff (2002) shows an Overview of the applied Delphi Method.

Table 12: Overview of the Delphi Method (Source: adapted from Linstone and Turoff, 2002)

Rationales for Use of the Delphi Method	Specific Applications of the Delphi Method
• The problem does not lend itself to precise analytical techniques but cart benefit from subjective judgments on a collective basis • The individuals needed to contribute to the examination of a broad or complex problem have no history of adequate communication and may represent diverse backgrounds with respect to experience or expertise • More individuals are needed than can effectively interact in a face-to-face exchange • Time and cost make frequent group meetings infeasible · The efficiency of face-to-face meetings can be increased by a supplemental group communication process • Disagreements among individuals are so severe or politically unpalatable that the communication process must be refereed and/or anonymity assured • The heterogeneity of the participants must be preserved to assure validity of the results, i.e., avoidance of domination by quantity or by strength of personality ("bandwagon effect")	• Gathering current and historical data not accurately known or available • Examining the significance of historical events • Evaluating possible budget allocations Exploring urban and regional planning options • Planning university campus and curriculum development • Putting together the structure of a model • Delineating the pros and cons associated with potential policy options • Developing causal relationships in complex economic or social phenomena • Distinguishing and clarifying real and perceived human motivations • Exposing priorities of personal values, social goals

Note: As specified by Linstone and Turoff (2002, p. 4)

On the basis of the Delphi Method, two stages of questions were posed to subject-matter experts assembled to answer RQ3. Before presenting these questions, it would be appropriate to identify the sampling means through which individual experts were identified to answer RQ3. The following classes of individuals were considered appropriate informants:

- Venture capitalists and other stakeholders in investment processes targeting SMEs in particular
- Technology vendors from crowdfunding platforms
- Professors and other academic experts on funding and, in particular, crowdfunding

Individuals fitting any of the profiles above were solicited with the assistance of SSI. Once identified and qualified, willing participants established email contact with the researcher and were sent a list of questions to answer. The research collated these answers into a single document, sent a second wave of questions to the participants, and allowed the participants to see all of the responses from the first wave of the Delphi Method.

The questions in the first wave of the Delphi Method as applied to RQ3 were as follows:

1. What do you feel about the importance of crowdfunding in the overall funding strategy of SMEs? Is crowdfunding likely to be important or unimportant? If so, why?
2. If crowdfunding should become more important as a funding strategy, what kinds of effects might this increasing importance have on traditional funding and the traditional funding marketplace? Please explain your reasoning.
3. Please discuss what you consider to be plausible future scenarios about the possible changes to traditional funding that might be wrought by increased crowdfunding. What are some plausible scenarios? Which scenario do you consider to be the most likely?

4. Please discuss how you see crowdfunding as changing over time. Is it becoming more or less prevalent? Why?

The first three Delphi Method questions were oriented to RQ3 but kept somewhat open-ended in order to allow the Delphi experts to express a wide range of views and contribute a broader spectrum of data. The second wave of Delphi questions consisted of the following:

1. Having seen what some of your colleagues think about the impact of crowdfunding on traditional funding, have you changed your own opinions? Why or why not?
2. Please respond to any of your colleagues' claims or answers that you find interesting—whether because you agree or disagree with them.

The second wave of questions, particularly question #2, was designed to elicit conversations between participants with different points of view and encourage interaction with the data collected in the first wave of the Delphi Method. Data analysis for RQ3 will be performed through a three-step approach coding that will proceed from (a) a review of all data collected from RQ3 to (b) an identification of themes in the data for RQ3, and (c) a synthesis of themes collected for RQ3 into an overall explanatory structure for RQ3.

The data analysis for RQ3 benefited from the use of NVivo qualitative analysis software. All data for RQ3 were stored in NVivo, and classification analysis within NVivo was utilised in order to discover recurring keyworks and themes for RQ3. By highlighting narratives that were on similar topics or themes, NVivo reduced the manual work necessary to sort RQ3 narratives and derive findings accordingly.

3.7.4 RQ4 Research Design

The fourth research question of the study was as follows:

In the context of crowdfunding, what are potential regulatory gaps that could lead to systematic risk? The fourth research question of the study was associated with two sub-research questions.

The first sub-research question associated with RQ4 was as follows: In the context of crowdfunding, what is the relative importance of potential regulatory gaps that could lead to systematic risk? The second research question associated with RQ4 was as follows: In the context of crowdfunding, what are the costs and benefits of closing potential regulatory gaps that could lead to systematic risk?

On the basis of the Delphi Method, two stages of questions were posed to subject-matter experts assembled to answer RQ4. Before presenting these questions, it would be appropriate to identify the sampling means through which individual experts were identified to answer RQ4. The following classes of individuals were, as in the method applied to RQ3, considered appropriate informants for RQ4 as well, with the addition of stakeholders from investment banking and financial services:

- Venture capitalists and other stakeholders in investment processes targeting SMEs in particular
- Technology vendors from crowdfunding platforms
- Professors and other academic experts on funding and, in particular, crowdfunding
- Investment bankers and other stakeholders in financial services

Individuals fitting any of the profiles above were solicited with the assistance of SSI. Once identified and qualified, willing participants established email contact with the researcher and were sent a list of questions to answer. The research collated these answers into a single document, sent a second wave of questions to the participants, and allowed the participants to see all of the responses from the first wave of the Delphi Method.

The questions in the first wave of the Delphi Method as applied to RQ4 were as follows:

1. Please discuss regulatory gaps that you believe to exist in the current environment of crowdfunding, both in a German and a global context.
2. Do you believe that regulatory gaps that might exist in the current environment of crowdfunding, both in a German and a global context, will lead to some form

of systematic risk? If so, please identify each risk and discuss the possible reasons for its existence.

3. How important is it to reduce regulatory gaps in the current environment of crowdfunding, both in Germany and globally? Why?
4. Which regulatory gaps are the most important? Why?
5. What are the costs of allowing current regulatory gaps to continue, both in Germany and globally?
6. What are the benefits of allowing current regulatory gaps to continue, both in Germany and globally?

RQ4 gathered knowledge that was not elicited in the other research questions, none of which touched specifically on themes of regulatory risk. While RQ3 was a means of exploring reasons for a trade-off between crowdfunding and traditional funding as identified in RQ2, RQ4 was a standalone research question designed solely to explore expert conceptions of regulatory risk related to crowdfunding among SMEs.

The first six Delphi Method questions were oriented to RQ4 but kept somewhat open-ended in order to allow the Delphi experts to express a wide range of views and contribute a broader spectrum of data. The second wave of Delphi questions consisted of the following:

1. Having seen what some of your colleagues think about crowdfunding, regulatory gaps, and systemic risk, have you changed your opinion(s)? Why or why not?
2. Please respond to any of your colleagues' claims or answers that you find interesting—whether because you agree or disagree with them.

The second wave of questions, particularly question #2, was designed to elicit conversations between participants with different points of view and encourage interaction with the data collected in the first wave of the Delphi Method. Data analysis for RQ4 will be performed through a three-step approach coding that will proceed from

(a) a review of all data collected from RQ4 to

(b) an identification of themes in the data for RQ4, and

(c) a synthesis of themes collected for RQ4 into an overall explanatory structure for RQ4.

The data analysis for RQ4 benefited from the use of NVivo qualitative analysis software. All data for RQ4 were stored in NVivo, and classification analysis within NVivo was utilised in order to discover recurring keyworks and themes for RQ4. By highlighting narratives that were on similar topics or themes, NVivo reduced the manual work necessary to sort RQ4 narratives and derive findings accordingly.

3.8 Determination of Research Ethics

The purpose of this section of the chapter is to describe issues of research ethics related to the study.

Perhaps the leading ethical concern recognized by experts in research methodology is that of informed consent (Kadam, 2017; Wolff, 2011). The main purposes of informed consent are to

(a) ensure that participants are aware of what they are being asked to do in the context of a research process,

(b) ensure that participants are aware of their rights, and

(c) give the researcher an opportunity to consider and protect against research risks and harms.

In this study, sampling was carried out by SSI, but on the basis of informed consent forms that were designed by the researcher. There were two sets of informed consent forms: One for SMEs that were asked to participate in the data collection for RQs 1 and 2, and one for subject-matter experts asked to participate in the data collection for RQs 3 and 4.

3.8.1 Informed Consent for SMEs

The following table determines and outlines the details of the informed consent used for SMEs and is setup according Kadam, (2017).

Table 13: Informed Consent for Delphi Experts within SMEs (Source: adapted from Kadam, 2017)

Component	Details
Introduction	You are being asked to participate in a research study. The purpose of the research study is to examine the prevalence and importance of crowdfunding among small and medium-sized enterprises (SMEs) in Germany. This study will contribute to the researcher's completion of a doctoral study.

Research Procedures	Should you decide to participate in this research study, you will be asked to sign this consent form once all your questions have been answered to your satisfaction. This study consists of an online data-gathering instrument that asks you to estimate the amount of funding your SME received from different sources. You may choose to complete the data collection form for any year, or any collection of years, between 2008 and 2017.
Time Required	Participation in this study might require 10-45 minutes of your time, depending on how readily you can access data related to your SME's funding.
Risks	The investigator does not perceive more than minimal risks from your involvement in this study (that is, no risks beyond the risks associated with everyday life).
Benefits	There are no direct benefits to you for participating in this study. However, the results of the study might indirectly assist SMEs in learning more about, and better exploiting, crowdfunding.
Payment for Participation	There is no payment for participation in this study.
Confidentiality	The results of this research will be published as a dissertation. Your SME will be identified in the research records by a code number. The researcher retains the right to use and publish non-identifiable data. When the results of this research are published, no information will be included that would reveal your identity or your SME's identity. All data will be stored in a secure location accessible only to the researcher. Upon completion of the study, all information that matches up individual respondents with their answers will be destroyed.
Participation & Withdrawal	Your participation is entirely voluntary. You are free to choose not to participate. Should you choose to participate, you can withdraw at any time without consequences of any kind.
Questions about the Study	If you have questions or concerns during the time of your participation in this study, or after its completion or you would like to receive a copy of the final aggregate results of this study, please contact SSI.
Giving of Consent	I have read this consent form and I understand what is being requested of me as a participant in this study. I freely consent to participate. I have been given satisfactory answers to my questions. The investigator provided me with a copy of this form. I certify that I am at least 18 years of age.

3.8.2 Informed Consent for Delphi Experts

The following table determines and outlines the details of the informed consent used for SMEs and is setup according Wolff, (2011).

Table 14: Informed Consent for Delphi Experts (Source: adapted from Wolff, 2011)

Component	Details
Introduction	You are being asked to participate in a research study. The purpose of the research study is to examine the potential, barriers, and risks related to crowdfunding among small and medium-sized enterprises (SMEs) in Germany and globally. This study will contribute to the researcher's completion of a doctoral study.
Research Procedures	Should you decide to participate in this research study, you will be asked to sign this consent form once all your questions have been answered to your

	satisfaction. This study consists of an online data-gathering instrument that asks you to answer several questions related to the potential, barriers, and risks related to crowdfunding among SMEs in Germany and globally.
Time Required	Participation in this study might require 60-120 minutes of your time, depending on how much time you can allocate to the thoroughness of your responses.
Risks	• The investigator does not perceive more than minimal risks from your involvement in this study (that is, no risks beyond the risks associated with everyday life).
Benefits	There are no direct benefits to you for participating in this study. However, the results of the study might indirectly assist SMEs in learning more about, and better exploiting, crowdfunding.
Payment for Participation	There is no payment for participation in this study.
Confidentiality	The results of this research will be published as a dissertation. You will be identified in the research records by a code number. The researcher retains the right to use and publish non-identifiable data. When the results of this research are published, no information will be included that would reveal your identity. All data will be stored in a secure location accessible only to the researcher. Upon completion of the study, all information that matches up individual respondents with their answers will be destroyed.
Participation & Withdrawal	Your participation is entirely voluntary. You are free to choose not to participate. Should you choose to participate, you can withdraw at any time without consequences of any kind.
Questions about the Study	If you have questions or concerns during the time of your participation in this study, or after its completion or you would like to receive a copy of the final aggregate results of this study, please contact SSI.
Giving of Consent	I have read this consent form and I understand what is being requested of me as a participant in this study. I freely consent to participate. I have been given satisfactory answers to my questions. The investigator provided me with a copy of this form. I certify that I am at least 18 years of age.

3.9 Conclusion

Chapter 3 was structured as follows. First, the problem, goal, and questions of the study were noted, with the questions of the study containing both the quantitative and qualitative research questions and, for the appropriate quantitative research questions, accompanying null and alternative hypotheses. Second, the research paradigms of the study were discussed, with particular emphases on post-positivism and interpretivism. Third, the research approach of the study was discussed, with particular emphasis on the qualitative and quantitative aspects of the study and their blending into a mixed-methods approach. Fourth, the research design of the study was provided. Fifth, the research ethics of the study was discussed. The findings presented in Chapter 4 are in alignment with the research approach, design, and methodology described and defended in Chapter 3. Table 15 below contains the alignment between the research

objectives, research questions, and research approaches in the study. Table 15, the ultimate result of the discussion of methodology provided in Chapter 3, ensures that the research problems identified in the study were transformed into tangible research objectives that, in turn, were associated with appropriate research questions and means of analysis.

Table 15: Research, Objective, Approach and Design Alignment Table (Source: Author)

Research Objective	Research Question	Research Approach	Research Philosophy	Literature Support
To evaluate and determine the importance of crowdfunding and crowdfunding platforms as financing alternatives for SMEs.	RQ1: What is the percentage of crowdfunding in the overall funding of SMEs?	Quantitative: ANOVA, independent-samples *t*-test, Wilcoxon-Mann-Whitney U test, confidence interval of means, descriptive statistics.	Post-positivism	Hagedorn & Pinkwart, 2016; Nasrabadi, 2016)
To evaluate and determine the potential impact on the traditional financing market of a shift in SME financing demand from financial institutions to crowdfunding platforms.	RQ2: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on other—that is, traditional—forms of financing?	Quantitative: OLS and RSE regressions, heterogeneity of error variances testing.	Post-positivism	Block et al. 2016; Bratton & Levitin 2013; Vachelard et al. 2016
To evaluate and determine the potential impact on the traditional financing market of a shift in SME financing demand from financial institutions to crowdfunding platforms.	RQ3: What is the potential impact on the traditional financing market of a shift in SME financing demand from financial institutions to crowdfunding platforms	Qualitative (Delphi Method): Two waves of questions and answers from targeted experts.	Constructivism	Cholakova and Clarysse 2015; Herve et al. 2016; Marelli & Ordanini 2016; Mauritzen 2016
To identify and assess potential regulatory gaps that could lead to systematic risk.	RQ4: In the context of crowdfunding, what are potential regulatory gaps that could lead	Qualitative (Delphi Method): Two waves of questions and answers from targeted experts.	Constructivism	Aschenbeck-Florange et al.2013; Hooghiemstra & de Buysere 2016; Wilson

	to systematic risk?	& Testoni 2014

Table 15 is a synthesis and alignment of the objectives, research questions, research methods, research philosophies, concepts, and literature support for the study. In each category, the literature establishes certain predictions. As mentioned in Chapter 2, the well-established nature of traditional funding in Germany (Hagedorn & Pinkwart, 2016; Nasrabadi, 2016); the tension between crowdfunding and traditional funding in terms of goals and characteristics (Block et al. 2016; Bratton & Levitin 2013; Vachelard et al. 2016); the likely-to-be-limited impact of crowdfunding (Cholakova and Clarysse 2015; Herve et al. 2016; Marelli & Ordanini 2016; Mauritzen 2016); and the roles of regulation, investor inclusion, and investor protection (Aschenbeck-Florange et al.2013; Hooghiemstra & de Buysere 2016; Wilson & Testoni 2014) have all been noted in the literature, but not empirically tested in the context of German SMEs. Table 15 is also important for demonstrating that the objectives, research questions, methods, philosophies, and concepts of the study are aligned.

4 CHAPTER FINDINGS, ANALYSIS AND DISCUSSION

4.1 Introduction

The purpose of Chapter 4 is to present the results of the study. The results have been presented in order of the research questions of the study. The chapter presents the analytical findings in a sequenced core categories and constituent factors which are derived from data analysis using the statistical approaches and techniques described in chapter 3 of the presented study. Each core category and its constituent factors originated out of empirical data are discussed and analysed in accordance of extant literature ensure the rigour and reliability of the findings. The conclusion of Chapter 4 contains a brief summary of the results, which have been finally analysed and addressed in Chapter 5.

4.2 RQ1 Results

RQ1 was as follows: What is the percentage of crowdfunding in the overall funding of SMEs? RQ1 has been analysed with respect to the following groups:

- All SMEs in the sample for all years in the sample (2008-2017)
- All SMEs in the sample for each separate year in the sample (2008-2017)
- All technology SMEs in the sample for all years in the sample (2008-2017)
- All technology SMEs in the sample for each separate year in the sample (2008-2017)
- All non-technology SMEs in the sample for all years in the sample (2008-2017)
- All non-technology SMEs in the sample for each separate year in the sample (2008-2017)

Each of these groups has been analysed separately in the remainder of the RQ1 results.

4.2.1 All SMEs, All Years

The first group for which RQ1 results were collected for the group of all SMEs for all years. It was found that the mean dependence of crowdfunding among the entire sample for all years (2008-2017) in the sample was 3.94% (SD = 2.77). The range of crowdfunding as a percentage of all funding was from a low of 0.65% to a high of 56.69%. The skewness of the distribution of crowdfunding as a percentage of all

funding was 10.32, indicating that most of the companies had a reliance on crowdfunding as a percentage of all funding that was below the observed mean of 3.94%. The kurtosis of the distribution of crowdfunding as a percentage of all funding was 167.25, reflecting the influence of outliers as presented in Figure 4 below:

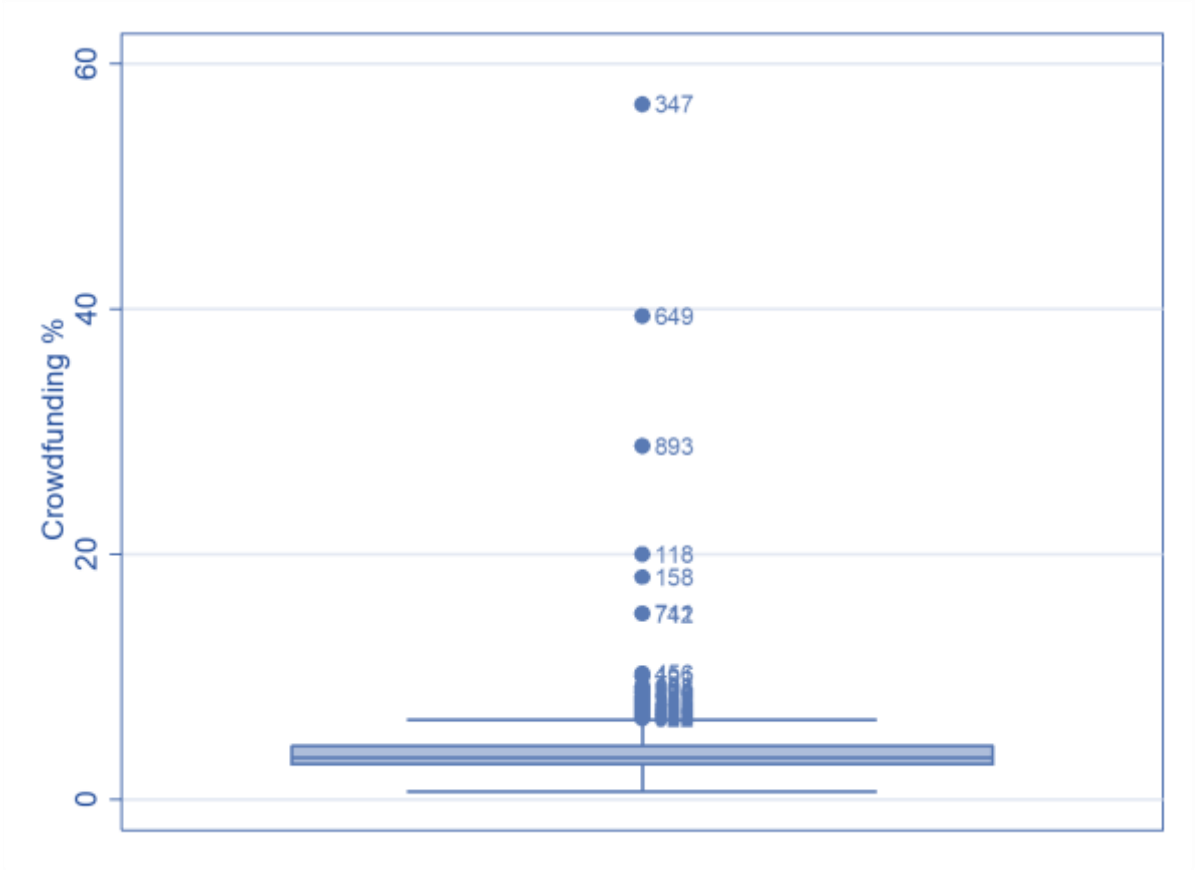

Figure 5: Box plot, distribution of crowdfunding as a percentage of all funding for all SMEs and all years in the sample (Source: Author)

4.2.2 All SMEs, Each Year

The scientific adequate manner in which to present RQ1 statistics for each year (2008-2017) in the sample is through a table. Accordingly, Table 16 below contains the following statistics related to crowdfunding as a percentage of all funding:

- Mean
- Standard deviation
- Skewness
- Kurtosis
- 95% confidence interval of the mean

Table 16: Reliance on Crowdfunding as a % of All Funding, Year by Year, Entire Sample (Source: Author)

Year	Mean	95% CI of the Mean	Standard Deviation	Skewness	Kurtosis
2008	3.89	3.57, 4.21	1.61	2.61	3.16
2009	4.26	3.73, 4.78	2.67	3.74	20.49
2010	3.56	3.28, 3.84	1.41	1.47	4.82
2011	4.28	3.19, 5.36	5.50	8.84	84.91
2012	3.92	3.55, 4.29	1.85	1.02	3.81
2013	3.64	3.38, 3.91	1.32	0.96	3.48
2014	4.03	3.26, 4.79	3.85	7.92	73.09
2015	4.03	3.60, 4.48	2.13	3.11	15.98
2016	4.05	3.48, 4.61	2.83	6.87	60.09
2017	3.76	3.43, 4.08	1.65	1.36	4.18

4.2.3 All Technology SMEs, All Years

It was found that the mean dependence of crowdfunding for all technology companies for all years (2008-2017) in the sample was 6.41% (SD = 4.30). The range of crowdfunding as a percentage of all funding for technology companies was from a low of 2.55% to a high of 56.69%. The skewness of the distribution of crowdfunding as a percentage of all funding for technology companies was 9.05, indicating that most of the companies had a reliance on crowdfunding as a percentage of all funding that was below the observed mean of 6.41%. The kurtosis of the distribution of crowdfunding as a percentage of all funding was 97.78, reflecting the influence of outliers as presented in Figure 6 below.

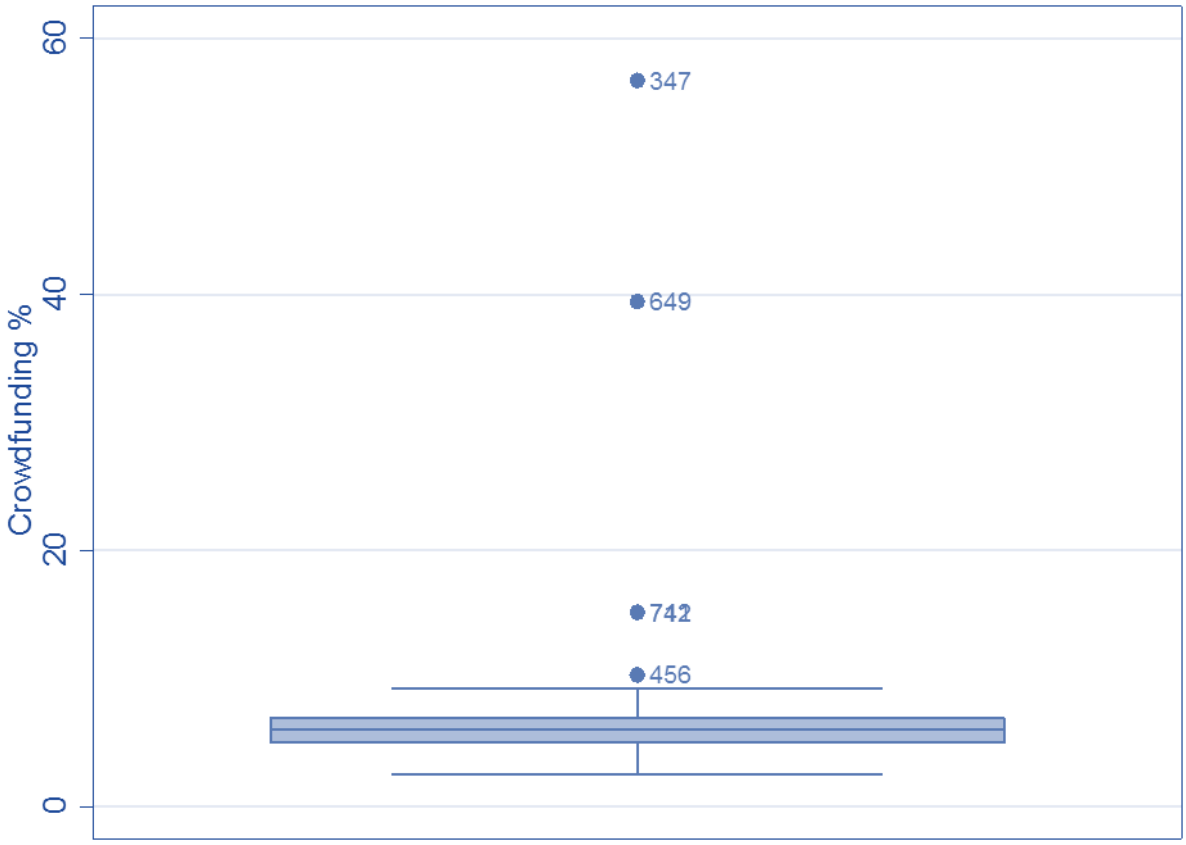

Figure 6: Box plot, distribution of crowdfunding as a percentage of all funding for technology SMEs and all years in the sample (Source: Author)

4.2.4 All Technology SMEs, Each Year

The scientific adequate manner in which to present RQ1 statistics for each year (2008-2017) in the sample is through a table. Accordingly, Table 17 below contains the following statistics related to crowdfunding as a percentage of all funding for technology companies only:

- Mean
- Standard deviation
- Skewness
- Kurtosis
- 95% confidence interval of the mean

Table 17: Reliance on Crowdfunding as a % of All Funding, Year by Year, Technology Companies (Source: Author)

Year	Mean	95% CI of the Mean	Standard Deviation	Skewness	Kurtosis
2008	6.12	5.62, 6.62	1.23	1.23	1.73
2009	5.91	5.22, 6.59	1.59	0.40	2.54

2010	5.91	5.27, 6.56	1.33	0.07	2.21
2011	8.58	3.54, 13.61	11.06	4.20	18.80
2012	6.29	5.78, 7.00	1.53	0.18	3.40
2013	5.39	4.85, 5.92	1.24	-0.07	1.80
2014	7.32	4.09, 10.56	7.29	4.11	18.70
2015	6.46	5.32, 7.61	2.83	2.24	7.46
2016	5.64	5.07, 6.21	1.32	0.05	3.05
2017	6,52	5.88, 7.16	1.36	-0.15	2.49

4.2.5 All Non-Technology SMEs, All Years

It was found that the mean dependence of crowdfunding for all non-technology companies for all years (2008-2017) in the sample was 3.20% (SD = 1.46). The range of crowdfunding as a percentage of all funding for non-technology companies was from a low of 0.65% to a high of 28.81%. The skewness of the distribution of crowdfunding as a percentage of all funding for non-technology companies was 10.47, indicating that most of the companies had a reliance on crowdfunding as a percentage of all funding that was below the observed mean of 3.20%. The kurtosis of the distribution of crowdfunding as a percentage of all funding for non-technology companies was 161.00, reflecting the influence of outliers as presented in Figure 6 as followed.

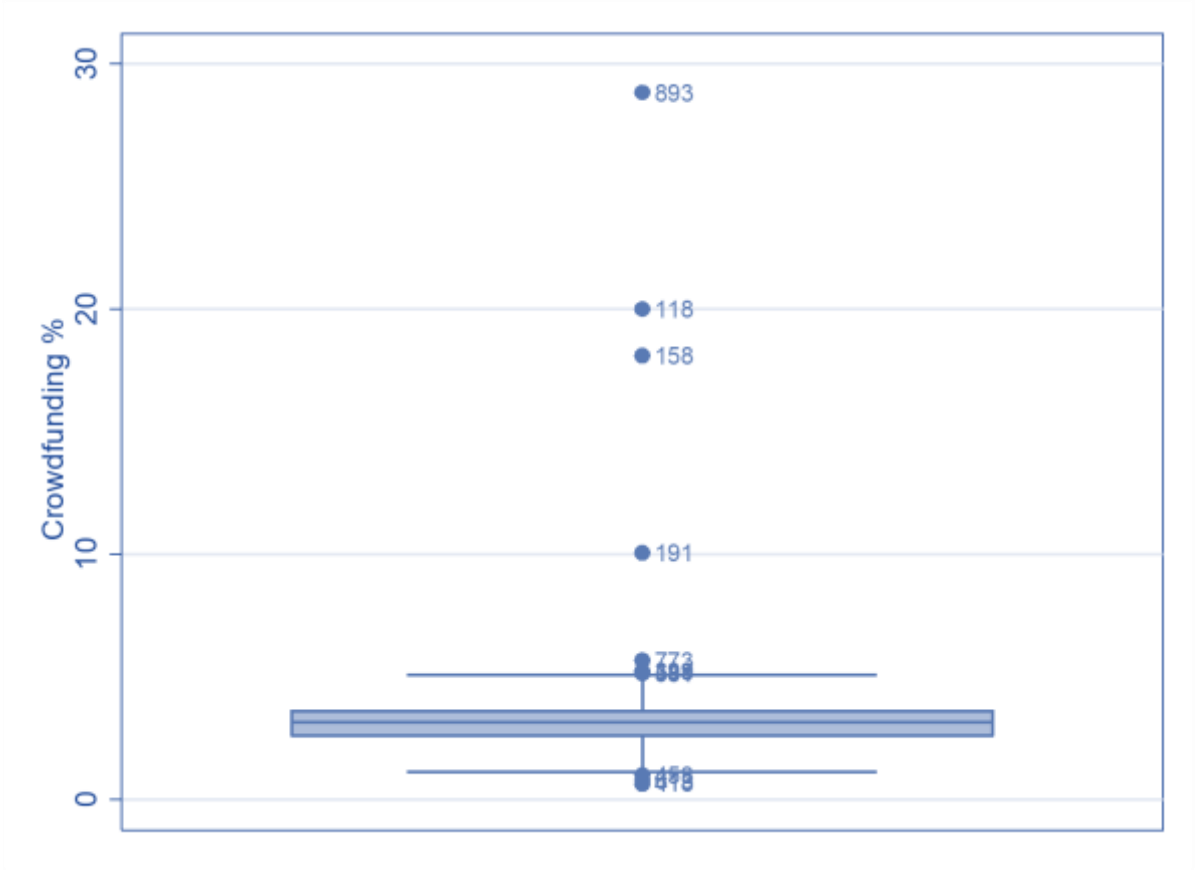

Figure 7: Box plot, distribution of crowdfunding as a percentage of all funding for non-technology SMEs and all years in the sample (Source: Author)

4.2.6 All Non-Technology SMEs, Each Year

The scientific adequate manner in which to present RQ1 statistics for each year (2008-2017) for non-technology companies in the sample is through a table. Accordingly, Table 18 below contains the following statistics related to crowdfunding as a percentage of all funding:

- Mean
- Standard deviation
- Skewness
- Kurtosis
- 95% confidence interval of the mean

Table 18: Reliance on Crowdfunding as a % of All Funding, Year by Year, Non-Technology Companies (Source: Author)

Year	Mean	95% CI of the Mean	Standard Deviation	Skewness	Kurtosis
2008	3.11	2.92, 3.29	0.79	0.03	2.60
2009	3.76	3.14, 4.38	2.73	4.83	27.27
2010	3.01	2.86, 3.16	0.67	0.27	2.77
2011	3.13	2.97, 3.30	0.74	0.07	3.36
2012	3.01	2.81, 3.21	0.87	-0.67	3.06
2013	3.12	2.94, 3.30	0.80	0.26	2.67
2014	3.10	2.93, 3.27	0.73	-0.32	3.06
2015	3.17	3.00, 3.34	0.73	0.10	4.28
2016	3.57	2.89, 4.25	3.00	8.00	67.90
2017	3.06	2.90, 3.23	0.74	0.36	2.92

4.2.7 RQ1: Comparisons between Technology and Non-Technology Companies

There was a statistically significant difference between technology SMEs' reliance on crowdfunding as a percentage of all funding (6.41%. SD = 4.30) and nontechnology SMEs' reliance on crowdfunding as a percentage of all funding (3.20%. SD = 1.46), $t(998) = 17.575$, $p < .001$. Technology companies had a higher reliance on crowdfunding as a percentage of all funding than did non-technology companies. However, because the variable of reliance on crowdfunding as a percentage of all funding was distributed abnormally (Shapiro-Wilk $W = 0.460$, $p < .001$), it was necessary to triangulate the parametric independent samples t-test with the non-parametric Wilcoxon-Mann-Whitney U test. The Wilcoxon-Mann-Whitney U test confirmed that mean reliance on crowdfunding as a percentage of all funding was higher for technology companies than for non-technology companies, $z = 21.488$, $p < .001$. A visual comparison of this difference between technology companies and non-technology companies has been provided in Figure 7 below.

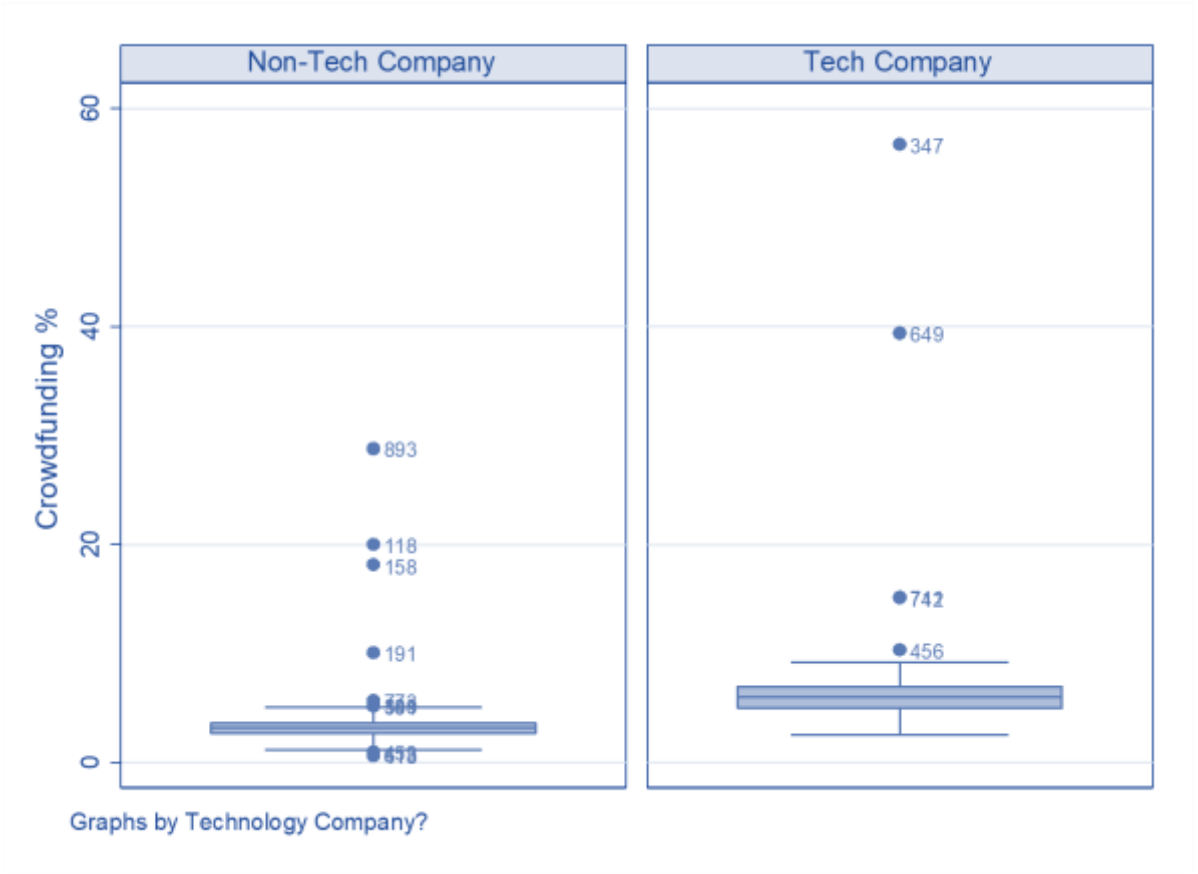

Figure 8: Box plot, comparison of crowdfunding as a percentage of all funding for non-technology SMEs and technology SMEs for all years in the sample (Source: Author)

4.3 RQ2 Results

RQ2 was as follows: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on other—that is, traditional—forms of financing? RQ2 has been subdivided into six distinct sub-research questions. Each of these sub-research questions is based on a comparison of SMEs' reliance on crowdfunding with one of five traditional funding approaches.

4.3.1 Seed funding Sub-RQ2.1 Results

Sub-RQ 2.1 was as follows: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on seed funding?

4.3.1.1 Seed funding, all years

The regression of crowdfunding on seed funding was statistically significant, $F(1, 998) = 33.440$, $p < .001$. The regression of crowdfunding on seed funding had an effect size of 0.032, indicating that roughly 3.2% of the variation in crowdfunding could be

explained by variation in seed funding. The regression equation for the relationship between crowdfunding and seed funding was as follows:

Crowdfunding % = (Seed funding %)(-0.092) + 5.581

Thus, every additional percentage a company's total finding from seed funding reduced crowdfunding by roughly a tenth of a percent. The results of adding technology company status to the regression of crowdfunding on seed funding are presented in Table 19 below, which also includes the results of the original regression.

Table 19: Regression of Crowdfunding in Seed Funding, No Covariate & Tech Covariate Models (Source: Author)

	(1) cfund	(2) cfund
seed	-0.0922***	0.00573
	(-5.78)	(0.37)
0.techtype		0
		(.)
1.techtype		3.230***
		(16.32)
_cons	5.582***	3.096***
	(18.82)	(10.17)
N	1000	1000

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.230% more of their funding as crowdfunding, and the effect of being a technology company on outsourcing was strong enough to displace seed funding as a statistically significant predictor of crowdfunding as a % of total funding. The adjusted coefficient of determination of the regression of crowdfunding on seed funding was 0.032, but this regression did not meet the assumption of heteroskedasticity of errors through the Breusch-Pagan / Cook-Weisberg test, $\chi 2 = 15.380$, $p < .001$. However, the same results were obtained through a RSE regression, so the findings reported above are statistically reliable.

4.3.1.2 Seed funding, 2008

The regression of crowdfunding on seed funding in 2008 was statistically significant, $F(1, 98) = 8.41$, $p = .0046$. The regression of crowdfunding on seed funding in 2008 had an effect size of 0.079, indicating that roughly 8% of the variation in crowdfunding in 2008 could be explained by variation in seed funding in 2008. The regression equation for the relationship between crowdfunding and seed funding in 2008 was as follows:

Crowdfunding %, 2008 = (Seed funding %, 2008)(-0.087) + 5.383

Thus, every additional percentage a company's total finding from seed funding in 2008 reduced crowdfunding received in 2008 by roughly a tenth of a percent. The results of adding technology company status to the regression of crowdfunding in 2008 on seed funding in 2008 are presented in Table 20, which also includes the results of the original regression.

Table 20: Regression of Crowdfunding in 2008 on Seed Funding in 2008, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
seed	-0.0865**	0.0121
	(-2.90)	(0.63)
0.techtype		0
		(.)
1.techtype		3.065***
		(13.40)
_cons	5.384***	2.890***
	(10.04)	(7.82)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.065% more of their funding as crowdfunding in 2008, and the effect of being a technology company on outsourcing was strong enough to displace seed funding in 2008 as a statistically significant predictor of crowdfunding as a % of total funding in 2008.

4.3.1.3 Seed funding, 2009

The regression of crowdfunding on seed funding in 2009 was statistically insignificant, $F(1, 98) = 2.310$, $p = .1322$. The regression of crowdfunding on seed funding in 2009 had an effect size of 0.023, indicating that roughly 2.3% of the variation in crowdfunding in 2009 could be explained by variation in seed funding in 2009. The regression equation for the relationship between crowdfunding and seed funding in 2009 was as follows:

Crowdfunding %, 2009 = (Seed funding %, 2009)(-0.065) + 5.409

Thus, every additional percentage a company's total finding from seed funding in 2009 reduced crowdfunding received in 2009 by roughly half a percent. The results of adding technology company status to the regression of crowdfunding in 2009 on seed funding in 2009 are presented in Table 21, which also includes the results of the original regression.

Table 21: Regression of Crowdfunding in 2009 on Seed Funding in 2009, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
seed	-0.0652	-0.00744
	(-1.52)	(-0.17)
0.techtype		0
		(.)
1.techtype		2.101**
		(3.20)
_cons	5.410***	3.904***
	(6.72)	(4.32)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 2.101% more of their funding as crowdfunding in 2009, but the effect of being a technology company on outsourcing did not change seed funding in 2009 as a statistically insignificant predictor of crowdfunding as a % of total funding in 2009.

4.3.1.4 Seed funding, 2010

The regression of crowdfunding on seed funding in 2010 was statistically significant, $F(1, 98) = 8.46$, $p = .0045$. The regression of crowdfunding on seed funding in 2010 had an effect size of 0.080, indicating that roughly 8% of the variation in crowdfunding in 2010 could be explained by variation in seed funding in 2010. The regression equation for the relationship between crowdfunding and seed funding in 2010 was as follows:

Crowdfunding %, 2010 = (Seed funding %, 2010)(-0.077) + 4.904

Thus, every additional percentage a company's total finding from seed funding in 2010 reduced crowdfunding received in 2010 by roughly a tenth of a percent. The results of adding technology company status to the regression of crowdfunding in 2010 on seed funding in 2010 are presented in Table 22, which also includes the results of the original regression.

Table 22: Regression of Crowdfunding in 2010 on Seed Funding in 2010, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
seed	-0.0773**	-0.00943
	(-2.91)	(-0.55)
0.techtype		0
		(.)
1.techtype		2.866***
		(12.77)
_cons	4.905***	3.182***
	(10.19)	(9.80)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 2.866% more of their funding as crowdfunding in 2010, and the effect of being a technology company on outsourcing was strong enough to displace seed funding in 2010 as a statistically significant predictor of crowdfunding as a % of total funding in 2010.

4.3.1.5 Seed funding, 2011

The regression of crowdfunding on seed funding in 2011 was statistically insignificant, $F(1, 98) = 1.860$, $p = .1783$. The regression of crowdfunding on seed funding in 2011 had an effect size of 0.008, indicating that roughly 0.8% of the variation in crowdfunding in 2011 could be explained by variation in seed funding in 2011. The regression equation for the relationship between crowdfunding and seed funding in 2011 was as follows:

Crowdfunding %, 2011 = (Seed funding %, 2011)(-0.127) + 5.509

Thus, every additional percentage a company's total finding from seed funding in 2011 reduced crowdfunding received in 2011 by roughly a tenth of a percent. The results of adding technology company status to the regression of crowdfunding in 2011 on seed funding in 2011 are presented in Table 23, which also includes the results of the original regression.

Table 23: Regression of Crowdfunding in 2011 on Seed Funding in 2011, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
seed	-0.128	0.0155
	(-1.36)	(0.17)
0.techtype		0
		(.)
1.techtype		5.529***
		(4.13)
_cons	6.510***	2.845
	(3.77)	(1.55)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 5.529% more of their funding as crowdfunding in 2011, but the effect of being a technology company on outsourcing was did not change seed funding in 2011 as a statistically insignificant predictor of crowdfunding as a % of total funding in 2011.

4.3.1.6 Seed funding, 2012

The regression of crowdfunding on seed funding in 2012 was statistically significant, $F(1, 98) = 25.830$, $p < .0001$. The regression of crowdfunding on seed funding in 2012 had an effect size of 0.208, indicating that roughly 21% of the variation in crowdfunding in 2012 could be explained by variation in seed funding in 2012. The regression equation for the relationship between crowdfunding and seed funding in 2012 was as follows:

Crowdfunding %, 2012 = (Seed funding %, 2012)(-0.157) + 6.610

Thus, every additional percentage a company's total finding from seed funding in 2012 reduced crowdfunding received in 2012 by roughly a tenth of a percent. The results of adding technology company status to the regression of crowdfunding in 2012 on seed funding in 2012 are presented in Table 24, which also includes the results of the original regression.

Table 24: Regression of Crowdfunding in 2012 on Seed Funding in 2012, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
seed	-0.157***	-0.0273
	(-5.08)	(-1.18)
0.techtype		0
		(.)
1.techtype		3.218***
		(11.55)
_cons	6.610***	3.519***
	(11.92)	(7.82)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.218% more of their funding as crowdfunding in 2012, and the effect of being a technology company on outsourcing was strong enough to displace seed funding in 2012 as a statistically significant predictor of crowdfunding as a % of total funding in 2012.

4.3.1.7 Seed funding, 2013

The regression of crowdfunding on seed funding in 2013 was statistically significant, $F(1, 98) = 17.400$, $p = .0001$. The regression of crowdfunding on seed funding in 2013 had an effect size of 0.150, indicating that roughly 15% of the variation in crowdfunding in 2013 could be explained by variation in seed funding in 2013. The regression equation for the relationship between crowdfunding and seed funding in 2013 was as follows:

Crowdfunding %, 2013 = (Seed funding %, 2013)(-0.102) + 5.482

Thus, every additional percentage a company's total finding from seed funding in 2013 reduced crowdfunding received in 2013 by roughly a tenth of a percent. The results of adding technology company status to the regression of crowdfunding in 2013 on seed funding in 2013 are presented in Table 25, which also includes the results of the original regression.

Table 25: Regression of Crowdfunding in 2013 on Seed Funding in 2013, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
seed	-0.103***	-0.00985
	(-4.17)	(-0.46)
0.techtype		0
		(.)
1.techtype		2.207***
		(8.72)
_cons	5.483***	3.312***
	(11.98)	(7.79)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 2.207% more of their funding as crowdfunding in 2013, and the effect of being a technology company on outsourcing was strong enough to displace seed funding in 2013 as a statistically significant predictor of crowdfunding as a % of total funding in 2013.

4.3.1.8 Seed funding, 2014

The regression of crowdfunding on seed funding in 2014 was statistically insignificant, $F(1, 98) = 0.930$, $p = .3369$. The regression of crowdfunding on seed funding in 2014 had an effect size of 0.009, indicating that roughly a tenth of a percent of the variation in crowdfunding in 2014 could be explained by variation in seed funding in 2014. The regression equation for the relationship between crowdfunding and seed funding in 2014 was as follows:

Crowdfunding %, 2014 = (Seed funding %, 2014)(-0.061) + 5.146

Thus, every additional percentage a company's total finding from seed funding in 2014 reduced crowdfunding received in 2014 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2014 on seed funding in 2014 are presented in Table 26, which also includes the results of the original regression.

Table 26: Regression of Crowdfunding in 2014 on Seed Funding in 2014, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
seed	-0.0619	0.0361
	(-0.97)	(0.59)
0.techtype		0
		(.)
1.techtype		4.397***
		(5.00)
_cons	5.147***	2.409
	(4.22)	(1.97)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 4.397% more of their funding as crowdfunding in 2014, but the effect of being a technology company on outsourcing did not change seed funding in 2014 as a statistically insignificant predictor of crowdfunding as a % of total funding in 2014.

4.3.1.9 Seed funding, 2015

The regression of crowdfunding on seed funding in 2015 was statistically significant, $F(1, 98) = 10.420$, $p = .0017$. The regression of crowdfunding on seed funding in 2015 had an effect size of 0.0961, indicating that roughly 9.6% of the variation in crowdfunding in 2015 could be explained by variation in seed funding in 2015. The regression equation for the relationship between crowdfunding and seed funding in 2015 was as follows:

Crowdfunding %, 2015 = (Seed funding %, 2015)(-0.135) + 6.456

Thus, every additional percentage a company's total finding from seed funding in 2015 reduced crowdfunding received in 2015 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2015 on seed funding in 2015 are presented in Table 27, which also includes the results of the original regression.

Table 27: Regression of Crowdfunding in 2015 on Seed Funding in 2015, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
seed	-0.135**	-0.0425
	(-3.23)	(-1.25)
0.techtype		0
		(.)
1.techtype		3.142***
		(8.36)
_cons	6.456***	3.972***
	(8.28)	(5.95)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.142% more of their funding as crowdfunding in 2015, and the effect of being a technology company on outsourcing was strong enough to displace seed funding in 2015 as a statistically significant predictor of crowdfunding as a % of total funding in 2015.

4.3.1.10 Seed funding, 2016

The regression of crowdfunding on seed funding in 2016 was statistically significant, $F(1, 98) = 0.260$, $p = .6119$. The regression of crowdfunding on seed funding in 2016 had an effect size of 0.026, indicating that roughly 2.6% of the variation in crowdfunding in 2016 could be explained by variation in seed funding in 2016. The regression equation for the relationship between crowdfunding and seed funding in 2016 was as follows:

Crowdfunding %, 2016 = (Seed funding %, 2016)(-0.030) + 4.609

Thus, every additional percentage a company's total finding from seed funding in 2016 reduced crowdfunding received in 2016 by roughly the amount indicated above.

The results of adding technology company status to the regression of crowdfunding in 2016 on seed funding in 2016 are presented in Table 28, which also includes the results of the original regression.

Table 28: Regression of Crowdfunding in 2016 on Seed Funding in 2016, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
seed	-0.0303	0.0560
	(-0.51)	(0.90)
0.techtype		0
		(.)
1.techtype		2.339**
		(3.30)
_cons	4.609***	2.463
	(4.03)	(1.94)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 2.339% more of their funding as crowdfunding in 2016, but the effect of being a technology company on outsourcing did not change seed funding in 2016 as a statistically insignificant predictor of crowdfunding as a % of total funding in 2016.

4.3.1.11 Seed funding, 2017

The regression of crowdfunding on seed funding in 2017 was statistically significant, F(1, 98) = 9.910, p = .0022. The regression of crowdfunding on seed funding in 2017 had an effect size of 0.0918, indicating that roughly 9% of the variation in crowdfunding in 2017 could be explained by variation in seed funding in 2017. The regression equation for the relationship between crowdfunding and seed funding in 2017 was as follows:

Crowdfunding %, 2017 = (Seed funding %, 2017)(-0.092) + 5.464

Thus, every additional percentage a company's total finding from seed funding in 2017 reduced crowdfunding received in 2017 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2017 on seed funding in 2017 are presented in Table 29, which also includes the results of the original regression.

Table 29: Regression of Crowdfunding in 2017 on Seed Funding in 2017, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
seed	-0.0923**	0.0142
	(-3.15)	(0.78)
0.techtype		0
		(.)
1.techtype		3.534***
		(14.42)
_cons	5.465***	2.787***
	(9.66)	(7.52)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.534% more of their funding as crowdfunding in 2017, and the effect of being a technology company on outsourcing was strong enough to displace seed funding in 2017 as a statistically significant predictor of crowdfunding as a % of total funding in 2017.

4.3.2 Start-up funding Sub-RQ2.2 Results

Sub-RQ 2.2 was as follows: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on start-up funding?

4.3.2.1 Start-up funding, all years

The regression of crowdfunding on start-up funding was statistically insignificant, F(1, 998) = 2.560, p = .1099. The regression of crowdfunding on start-up funding had an effect size of 0.026, indicating that roughly 2.6% of the variation in crowdfunding could be explained by variation in start-up funding. The regression equation for the relationship between crowdfunding and start-up funding was as follows:

Crowdfunding % = (Start-up funding %)(-0.018) + 4.229

Thus, every additional percentage a company's total finding from start-up funding reduced crowdfunding by roughly a tenth of a percent. The results of adding technology company status to the regression of crowdfunding on start-up funding are presented in Table 30 below, which also includes the results of the original regression.

Table 30: Regression of Crowdfunding in Startup Funding, No Covariate & Tech Covariate Models (Source: Author)

	(1) cfund	(2) cfund
su	-0.0184	0.0168
	(-1.60)	(1.64)
0.techtype		0
		(.)
1.techtype		3.261***
		(17.57)
_cons	4.230***	2.927***
	(21.06)	(15.36)
N	1000	1000

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.261% more of their funding as crowdfunding, but the effect of being a technology company on outsourcing did not change start-up funding as a statistically insignificant predictor of crowdfunding as a % of total funding. The adjusted coefficient of determination of the regression of crowdfunding on start-up funding was 0.1099, but this regression did not meet the assumption of heteroskedasticity of errors through the Breusch-Pagan / Cook-Weisberg test, $\chi 2 = 21310$, $p < .001$. However, the same results were obtained through a RSE regression, so the findings reported above are statistically reliable.

4.3.2.2 Start-up funding, 2008

The regression of crowdfunding on start-up funding in 2008 was statistically insignificant, $F(1, 98) = 2.330$, $p = .1302$. The regression of crowdfunding on start-up funding in 2008 had an effect size of 0.0232, indicating that roughly 2.3% of the variation in crowdfunding in 2008 could be explained by variation in start-up funding in 2008. The regression equation for the relationship between crowdfunding and start-up funding in 2008 was as follows:

Crowdfunding %, 2008 = (Start-up funding %, 2008)(-0.030) + 4.360

Thus, every additional percentage a company's total finding from start-up funding in 2008 reduced crowdfunding received in 2008 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2008 on start-up funding in 2008 are presented in Table 31, which also includes the results of the original regression..

Table 31: Regression of Crowdfunding in 2008 on Startup Funding in 2008, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
su	-0.0309	0.00641
	(-1.53)	(0.53)
0.techtype		0
		(.)
1.techtype		3.036***
		(14.00)
_cons	4.361***	3.009***
	(12.64)	(13.57)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.036% more of their funding as crowdfunding in 2008, but the effect of being a technology company on outsourcing did not change start-up funding in 2008 as a statistically significant predictor of crowdfunding as a % of total funding in 2008.

4.3.2.3 Start-up funding, 2009.

The regression of crowdfunding on start-up funding in 2009 was statistically insignificant, F(1, 98) = 0.080, p = .7779. The regression of crowdfunding on start-up funding in 2009 had an effect size of 0.0008, indicating that very little of the variation in crowdfunding in 2009 could be explained by variation in start-up funding in 2009. The regression equation for the relationship between crowdfunding and start-up funding in 2009 was as follows:

Crowdfunding %, 2009 = (Start-up funding %, 2009)(0.010) + 4.086

Thus, every additional percentage a company's total finding from start-up funding in 2009-increased crowdfunding received in 2009 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2009 on start-up funding in 2009 are presented in Table 32, which also includes the results of the original regression.

Table 32: Regression of Crowdfunding in 2009 on Start-up Funding in 2009, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
su	0.0109	0.0192
	(0.28)	(0.53)
0.techtype		0
		(.)
1.techtype		2.165***
		(3.60)
_cons	4.086***	3.460***
	(6.24)	(5.39)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.065% more of their funding as crowdfunding in 2009, but the effect of being a technology company on outsourcing did not change start-up funding in 2009 as a statistically insignificant predictor of crowdfunding as a % of total funding in 2009.

4.3.2.4 Start-up funding, 2010

The regression of crowdfunding on start-up funding in 2010 was statistically significant, $F(1, 98) = 4.190$, $p = .0433$. The regression of crowdfunding on start-up funding in 2010 had an effect size of 0.0410, indicating that roughly 4% of the variation in crowdfunding in 2010 could be explained by variation in start-up funding in 2010. The regression equation for the relationship between crowdfunding and start-up funding in 2010 was as follows:

Crowdfunding %, 2010 = (Start-up funding %, 2010)(-0.037) + 4.181

Thus, every additional percentage a company's total finding from start-up funding in 2010 reduced crowdfunding received in 2010 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2010 on start-up funding in 2010 are presented in Table 33, which also includes the results of the original regression.

Table 33: Regression of Crowdfunding in 2010 on Start-up Funding in 2010, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
su	-0.0376*	-0.000579
	(-2.05)	(-0.05)
0.techtype		0
		(.)
1.techtype		2.902***
		(13.16)
_cons	4.182***	3.021***
	(12.56)	(13.78)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 2.902% more of their funding as crowdfunding in 2010, but the effect of being a technology company on outsourcing did not change start-up funding in 2010 as a statistically insignificant predictor of crowdfunding as a % of total funding in 2010.

4.3.2.5 Start-up funding, 2011

The regression of crowdfunding on start-up funding in 2011 was statistically insignificant, F(1, 98) = 0.290, p = .5893. The regression of crowdfunding on start-up funding in 2011 had an effect size of 0.003, indicating that roughly 0.3% of the variation in crowdfunding in 2011 could be explained by variation in start-up funding in 2011. The regression equation for the relationship between crowdfunding and start-up funding in 2011 was as follows:

Crowdfunding %, 2011 = (Start-up funding %, 2011)(-0.038) + 4.897

Thus, every additional percentage a company's total finding from start-up funding in 2011 reduced crowdfunding received in 2011 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2011 on start-up funding in 2011 are presented in Table 34, which also includes the results of the original regression.

Table 34: Regression of Crowdfunding in 2011 on Startup Funding in 2011, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
su	-0.0387	0.0388
	(-0.54)	(0.57)
0.techtype		0
		(.)
1.techtype		5.638***
		(4.38)
_cons	4.898***	2.470
	(3.85)	(1.91)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 5.638% more of their funding as crowdfunding in 2011, but the effect of being a technology company on outsourcing did not change start-up funding in 2011 as a statistically insignificant predictor of crowdfunding as a % of total funding in 2011.

4.3.2.6 Start-up funding, 2012

The regression of crowdfunding on start-up funding in 2012 was statistically significant, $F(1, 98) = 4.450$, $p = .0374$. The regression of crowdfunding on start-up funding in 2012 had an effect size of 0.0434, indicating that roughly 4.3% of the variation in crowdfunding in 2012 could be explained by variation in start-up funding in 2012. The regression equation for the relationship between crowdfunding and start-up funding in 2012 was as follows:

Crowdfunding %, 2012 = (Startup funding %, 2012)(-0.051) + 4.664

Thus, every additional percentage a company's total finding from start-up funding in 2012 reduced crowdfunding received in 2012 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2012 on start-up funding in 2012 are presented in Table 35, which also includes the results of the original regression.

Table 35: Regression of Crowdfunding in 2012 on Start-up Funding in 2012, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
su	-0.0514*	-0.0194
	(-2.11)	(-1.33)
0.techtype		0
		(.)
1.techtype		3.326***
		(13.51)
_cons	4.664***	3.304***
	(11.77)	(12.94)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.326% more of their funding as crowdfunding in 2012, and the effect of being a technology company on outsourcing was strong enough to displace start-up funding in 2012 as a statistically significant predictor of crowdfunding as a % of total funding in 2012.

4.3.2.7 Start-up funding, 2013

The regression of crowdfunding on start-up funding in 2013 was statistically insignificant, $F(1, 98) = 1.310$, $p = .2552$. The regression of crowdfunding on start-up funding in 2013 had an effect size of 0.0132, indicating that roughly 1% of the variation in crowdfunding in 2013 could be explained by variation in start-up funding in 2013. The regression equation for the relationship between crowdfunding and start-up funding in 2013 was as follows:

Crowdfunding %, 2013 = (Start-up funding %, 2013)(-0.019) + 3.972

Thus, every additional percentage a company's total finding from start-up funding in 2013 reduced crowdfunding received in 2013 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2013 on start-up funding in 2013 are presented in Table 36, which also includes the results of the original regression.

Table 36: Regression of Crowdfunding in 2013 on Start-up Funding in 2013, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
su	-0.0191	0.0158
	(-1.14)	(1.31)
0.techtype		0
		(.)
1.techtype		2.348***
		(10.35)
_cons	3.972***	2.831***
	(12.55)	(11.54)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 2.348% more of their funding as crowdfunding in 2013, but the effect of being a technology company on outsourcing did not change start-up funding in 2013 as a statistically insignificant predictor of crowdfunding as a % of total funding in 2013.

4.3.2.8 Start-up funding, 2014

The regression of crowdfunding on start-up funding in 2014 was statistically insignificant, $F(1, 98) = 0.100$, $p = .7569$. The regression of crowdfunding on start-up funding in 2014 had an effect size of 0.001, indicating that roughly a tenth of 1% of the variation in crowdfunding in 2014 could be explained by variation in start-up funding in 2014. The regression equation for the relationship between crowdfunding and start-up funding in 2014 was as follows:

Crowdfunding %, 2014 = (Start-up funding %, 2014)(0.015) + 3.786

Thus, every additional percentage a company's total finding from start-up funding in 2014-increased crowdfunding received in 2014 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2014 on start-up funding in 2014 are presented in Table 37, which also includes the results of the original regression.

Table 37: Regression of Crowdfunding in 2014 on Start-up Funding in 2014, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
su	0.0157	0.0202
	(0.31)	(0.44)
0.techtype		0
		(.)
1.techtype		4.235***
		(5.08)
_cons	3.787***	2.787***
	(4.36)	(3.48)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 4.235% more of their funding as crowdfunding in 2014, but the effect of being a technology company on outsourcing did not change start-up funding in 2014 as a statistically insignificant predictor of crowdfunding as a % of total funding in 2014.

4.3.2.9 Start-up funding, 2015

The regression of crowdfunding on start-up funding in 2015 was statistically insignificant, F(1, 98) = 1.120, p = .2935. The regression of crowdfunding on start-up funding in 2015 had an effect size of 0.011, indicating that roughly 1% of the variation in crowdfunding in 2015 could be explained by variation in start-up funding in 2015. The regression equation for the relationship between crowdfunding and start-up funding in 2015 was as follows:

Crowdfunding %, 2015 = (Start-up funding %, 2015)(-0.030) + 4.512

Thus, every additional percentage a company's total finding from start-up funding in 2015 reduced crowdfunding received in 2015 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2015 on start-up funding in 2015 are presented in Table 38, which also includes the results of the original regression.

Table 38: Regression of Crowdfunding in 2015 on Start-up Funding in 2015, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
su	-0.0306	0.0132
	(-1.06)	(0.60)
0.techtype		0
		(.)
1.techtype		3.344***
		(9.13)
_cons	4.513***	2.946***
	(8.88)	(7.15)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.344% more of their funding as crowdfunding in 2015, but the effect of being a technology company on outsourcing did not change start-up funding in 2015 as a statistically insignificant predictor of crowdfunding as a % of total funding in 2015.

4.3.2.10 Start-up funding, 2016

The regression of crowdfunding on start-up funding in 2016 was statistically insignificant, F(1, 98) = 0.130, p = .7146. The regression of crowdfunding on start-up funding in 2016 had an effect size of 0.001, indicating that roughly a tenth of 1% of the variation in crowdfunding in 2016 could be explained by variation in start-up funding in 2016. The regression equation for the relationship between crowdfunding and start-up funding in 2016 was as follows:

Crowdfunding %, 2016 = (Startup funding %, 2016)(0.013) + 3.822

Thus, every additional percentage a company's total finding from start-up funding in 2016-increased crowdfunding received in 2016 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2016 on start-up funding in 2016 are presented in Table 39, which also includes the results of the original regression.

Table 39: Regression of Crowdfunding in 2016 on Start-up Funding in 2016, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
su	0.0135	0.0679
	(0.37)	(1.80)
0.techtype		0
		(.)
1.techtype		2.558***
		(3.71)
_cons	3.822***	2.337**
	(5.70)	(3.13)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 2.558% more of their funding as crowdfunding in 2016, but the effect of being a technology company on outsourcing did not change start-up funding in 2016 as a statistically insignificant predictor of crowdfunding as a % of total funding in 2016.

4.3.2.11 Start-up funding, 2017

The regression of crowdfunding on start-up funding in 2017 was statistically insignificant, F(1, 98) = 0.110, p = .7442. The regression of crowdfunding on start-up funding in 2017 had an effect size of 0.001, indicating that roughly a tenth of 1% of the variation in crowdfunding in 2017 could be explained by variation in start-up funding in 2017. The regression equation for the relationship between crowdfunding and start-up funding in 2017 was as follows:

Crowdfunding %, 2017 = (Start-up funding %, 2017)(-0.007) + 3.861

Thus, every additional percentage a company's total finding from start-up funding in 2017 reduced crowdfunding received in 2017 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2017 on start-up funding in 2017 are presented in Table 40, which also includes the results of the original regression.

Table 40: Regression of Crowdfunding in 2017 on Start-up Funding in 2017, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
su	-0.00707	0.00461
	(-0.33)	(0.39)
0.techtype		0
		(.)
1.techtype		3.462***
		(15.39)
_cons	3.861***	2.995***
	(10.64)	(14.64)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.462% more of their funding as crowdfunding in 2017, but the effect of being a technology company on outsourcing did not change start-up funding in 2017 as a statistically insignificant predictor of crowdfunding as a % of total funding in 2017.

4.3.3 Round 1 funding Sub-RQ2.3 Results

Sub-RQ 2.3 was as follows: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on Round 1 funding?

4.3.3.1 Round 1 funding, all years

The regression of crowdfunding on Round 1 funding was statistically significant, F(1, 998) = 9.630, p = .0020. The regression of crowdfunding on Round 1 funding had an effect size of 0.010, indicating that roughly 1% of the variation in crowdfunding could be explained by variation in Round 1 funding. The regression equation for the relationship between crowdfunding and Round 1 funding was as follows:

Crowdfunding % = (Round 1 funding %)(-0.050) + 4.467

Thus, every additional percentage a company's total finding from Round 1 funding reduced crowdfunding by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding on Round 1 funding are presented in Table 41 below, which also includes the results of the original regression.

Table 41: Regression of Crowdfunding in Round 1 Funding, No Covariate & Tech Covariate Models (Source: Author)

	(1) cfund	(2) cfund
ri	-0.0501**	-0.00132
	(-3.10)	(-0.09)
0.techtype		0
		(.)
1.techtype		3.198***
		(17.21)
_cons	4.467***	3.219***
	(23.41)	(17.62)
N	1000	1000

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.198% more of their funding as crowdfunding, and the effect of being a technology company on outsourcing was strong enough to displace Round 1 funding as a statistically significant predictor of crowdfunding as a % of total funding. The adjusted coefficient of determination of the regression of crowdfunding on Round 1 funding was 0.010, but this regression did not meet the assumption of heteroskedasticity of errors through the Breusch-Pagan / Cook-Weisberg test, $\chi 2 = 16.430$, $p < .001$. However, the same results were obtained through a RSE regression, so the findings reported above are statistically reliable.

4.3.3.2 Round 1 funding, 2008

The regression of crowdfunding on Round 1 funding in 2008 was statistically significant, $F(1, 98) = 7.750$, $p = .0064$. The regression of crowdfunding on Round 1 funding in 2008 had an effect size of 0.073, indicating that roughly 7.3% of the variation in crowdfunding in 2008 could be explained by variation in Round 1 funding in 2008. The regression equation for the relationship between crowdfunding and Round 1 funding in 2008 was as follows:

Crowdfunding %, 2008 = (Round 1 funding %, 2008)(-0.074) + 4.700

Thus, every additional percentage a company's total finding from Round 1 funding in 2008 reduced crowdfunding received in 2008 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2008 on Round 1 funding in 2008 are presented in Table 42, which also includes the results of the original regression.

Table 42: Regression of Crowdfunding in 2008 on Round 1 Funding in 2008, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
ri	-0.0745**	0.0121
	(-2.78)	(0.71)
0.techtype		0
		(.)
1.techtype		3.071***
		(13.47)
_cons	4.701***	2.965***
	(14.29)	(12.68)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.071% more of their funding as crowdfunding in 2008, and the effect of being a technology company on outsourcing was strong enough to displace Round 1 funding in 2008 as a statistically significant predictor of crowdfunding as a % of total funding in 2008.

4.3.3.3 Round 1 funding, 2009

The regression of crowdfunding on Round 1 funding in 2009 was statistically insignificant, $F(1, 98) = 0.200$, $p = .6518$. The regression of crowdfunding on Round 1 funding in 2009 had an effect size of 0.002, indicating that roughly a fifth of 1% of the variation in crowdfunding in 2009 could be explained by variation in Round 1 funding in 2009. The regression equation for the relationship between crowdfunding and Round 1 funding in 2009 was as follows:

Crowdfunding %, 2009 = (Round 1 funding %, 2009)(-0.021) + 4.494

Thus, every additional percentage a company's total finding from Round 1 funding in 2009 reduced crowdfunding received in 2009 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2009 on Round 1 funding in 2009 are presented in Table 43, which also includes the results of the original regression.

Table 43: Regression of Crowdfunding in 2009 on Round 1 Funding in 2009, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
ri	-0.0215	0.0138
	(-0.45)	(0.30)
0.techtype		0
		(.)
1.techtype		2.185***
		(3.55)
_cons	4.494***	3.599***
	(7.59)	(5.86)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 2.185% more of their funding as crowdfunding in 2009, but the effect of being a technology company on outsourcing did not change Round 1 funding in 2009 as a statistically insignificant predictor of crowdfunding as a % of total funding in 2009.

4.3.3.4 Round 1 funding, 2010

The regression of crowdfunding on Round 1 funding in 2010 was statistically significant, $F(1, 98) = 9.390$, $p = .0028$. The regression of crowdfunding on Round 1 funding in 2010 had an effect size of 0.087, indicating that roughly 8.7% of the variation in crowdfunding in 2010 could be explained by variation in Round 1 funding in 2010. The regression equation for the relationship between crowdfunding and Round 1 funding in 2010 was as follows:

Crowdfunding %, 2010 = (Round 1 funding %, 2010)(-0.079) + 4.396

Thus, every additional percentage a company's total finding from Round 1 funding in 2010 reduced crowdfunding received in 2010 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2010 on Round 1 funding in 2010 are presented in Table 44, which also includes the results of the original regression.

Table 44: Regression of Crowdfunding in 2010 on Round 1 Funding in 2010, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
ri	-0.0798**	-0.0235
	(-3.06)	(-1.42)
0.techtype		0
		(.)
1.techtype		2.822***
		(12.86)
_cons	4.397***	3.272***
	(14.45)	(15.93)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 2.822% more of their funding as crowdfunding in 2010, and the effect of being a technology company on outsourcing was strong enough to displace Round 1 funding in 2010 as a statistically significant predictor of crowdfunding as a % of total funding in 2010.

4.3.3.5 Round 1 funding, 2011

The regression of crowdfunding on Round 1 funding in 2011 was statistically insignificant, $F(1, 98) = 0.010$, $p = .9185$. The regression of crowdfunding on Round 1 funding in 2011 had an effect size of 0.0001, indicating that very little the variation in crowdfunding in 2011 could be explained by variation in Round 1 funding in 2011. The regression equation for the relationship between crowdfunding and Round 1 funding in 2011 was as follows:

Crowdfunding %, 2011 = (Round 1 funding %, 2011)(0.010) + 4.172

Thus, every additional percentage a company's total finding from Round 1 funding in 2011 increased crowdfunding received in 2011 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2011 on Round 1 funding in 2011 are presented in Table 45, which also includes the results of the original regression.

Table 45: Regression of Crowdfunding in 2011 on Round 1 Funding in 2011, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
ri	0.0106	0.00881
	(0.10)	(0.09)
0.techtype		0
		(.)
1.techtype		5.447***
		(4.38)
_cons	4.172***	3.046**
	(3.63)	(2.80)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 5.447% more of their funding as crowdfunding in 2011, but the effect of being a technology company on outsourcing did not change Round 1 funding in 2011 as a statistically insignificant predictor of crowdfunding as a % of total funding in 2011.

4.3.3.6 Round 1 funding, 2012

The regression of crowdfunding on Round 1 funding in 2012 was statistically insignificant, $F(1, 98) = 1.450$, $p = .2312$. The regression of crowdfunding on Round 1 funding in 2012 had an effect size of 0.014, indicating that roughly 1.4% of the variation in crowdfunding in 2012 could be explained by variation in Round 1 funding in 2012. The regression equation for the relationship between crowdfunding and Round 1 funding in 2012 was as follows:

Crowdfunding %, 2012 = (Round 1 funding %, 2012)(-0.044) + 4.437

Thus, every additional percentage a company's total finding from Round 1 funding in 2012 reduced crowdfunding received in 2012 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2012 on Round 1 funding in 2012 are presented in Table 46, which also includes the results of the original regression.

Table 46: Regression of Crowdfunding in 2012 on Round 1 Funding in 2012, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
ri	-0.0450	-0.000211
	(-1.20)	(-0.01)
0.techtype		0
		(.)
1.techtype		3.378***
		(13.63)
_cons	4.437***	3.012***
	(9.52)	(10.25)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.378% more of their funding as crowdfunding in 2012, but the effect of being a technology company on outsourcing did not change Round 1 funding in 2012 as a statistically insignificant predictor of crowdfunding as a % of total funding in 2012.

4.3.3.7 Round 1 funding, 2013

The regression of crowdfunding on Round 1 funding in 2013 was statistically significant, $F(1, 98) = 4.030$, $p = .0476$. The regression of crowdfunding on Round 1 funding in 2013 had an effect size of 0.039, indicating that roughly 3.9% of the variation in crowdfunding in 2013 could be explained by variation in Round 1 funding in 2013. The regression equation for the relationship between crowdfunding and Round 1 funding in 2013 was as follows:

Crowdfunding %, 2013 = (Round 1 funding %, 2013)(-0.046) + 4.129

Thus, every additional percentage a company's total finding from Round 1 funding in 2013 reduced crowdfunding received in 2013 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2013 on Round 1 funding in 2013 are presented in Table 47, which also includes the results of the original regression.

Table 47: Regression of Crowdfunding in 2013 on Round 1 Funding in 2013, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
ri	-0.0469*	0.00234
	(-2.01)	(0.14)
0.techtype		0
		(.)
1.techtype		2.274***
		(9.92)
_cons	4.129***	3.096***
	(15.01)	(14.01)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 2.274% more of their funding as crowdfunding in 2013, and the effect of being a technology company on outsourcing was strong enough to displace Round 1 funding in 2013 as a statistically significant predictor of crowdfunding as a % of total funding in 2013.

4.3.3.8 Round 1 funding, 2014

The regression of crowdfunding on Round 1 funding in 2014 was statistically insignificant, $F(1, 98) = 3.920$, $p = .0504$. The regression of crowdfunding on Round 1 funding in 2014 had an effect size of 0.038, indicating that roughly 3.8% of the variation in crowdfunding in 2014 could be explained by variation in Round 1 funding in 2014. The regression equation for the relationship between crowdfunding and Round 1 funding in 2014 was as follows:

Crowdfunding %, 2014 = (Round 1 funding %, 2014)(-0.140) + 5.405

Thus, every additional percentage a company's total finding from Round 1 funding in 2014 reduced crowdfunding received in 2014 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2014 on Round 1 funding in 2014 are presented in Table 48, which also includes the results of the original regression.

Table 48: Regression of Crowdfunding in 2014 on Round 1 Funding in 2014, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
ri	-0.140	-0.0597
	(-1.98)	(-0.90)
0.techtype		0
		(.)
1.techtype		4.028***
		(4.68)
_cons	5.406***	3.729***
	(6.83)	(4.64)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 4.028% more of their funding as crowdfunding in 2014, but the effect of being a technology company on outsourcing did not change Round 1 funding in 2014 as a statistically insignificant predictor of crowdfunding as a % of total funding in 2014.

4.3.3.9 Round 1 funding, 2015

The regression of crowdfunding on Round 1 funding in 2015 was statistically insignificant, $F(1, 98) = 1.230$, $p = .2695$. The regression of crowdfunding on Round 1 funding in 2015 had an effect size of 0.012, indicating that roughly 1.2% of the variation in crowdfunding in 2015 could be explained by variation in Round 1 funding in 2015. The regression equation for the relationship between crowdfunding and Round 1 funding in 2015 was as follows:

Crowdfunding %, 2015 = (Round 1 funding %, 2015)(-0.045) + 4.470

Thus, every additional percentage a company's total finding from Round 1 funding in 2015 reduced crowdfunding received in 2015 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2015 on Round 1 funding in 2015 are presented in Table 49, which also includes the results of the original regression.

Table 49: Regression of Crowdfunding in 2015 on Round 1 Funding in 2015, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
ri	-0.0453	-0.0174
	(-1.11)	(-0.58)
0.techtype		0
		(.)
1.techtype		3.275***
		(9.12)
_cons	4.470***	3.345***
	(9.86)	(9.38)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.275% more of their funding as crowdfunding in 2015, but the effect of being a technology company on outsourcing did not change Round 1 funding in 2015 as a statistically insignificant predictor of crowdfunding as a % of total funding in 2015.

4.3.3.10 Round 1 funding, 2016

The regression of crowdfunding on Round 1 funding in 2016 was statistically insignificant, $F(1, 98) = 0.150$, $p = .7002$. The regression of crowdfunding on Round 1 funding in 2016 had an effect size of 0.001, indicating that roughly a tenth of 1% of the variation in crowdfunding in 2016 could be explained by variation in Round 1 funding in 2016. The regression equation for the relationship between crowdfunding and Round 1 funding in 2016 was as follows:

Crowdfunding %, 2016 = (Round 1 funding %, 2016)(0.020) + 3.814

Thus, every additional percentage a company's total finding from Round 1 funding in 2016 increased crowdfunding received in 2016 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2016 on Round 1 funding in 2016 are presented in Table 50, which also includes the results of the original regression.

Table 50: Regression of Crowdfunding in 2016 on Round 1 Funding in 2016, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
ri	0.0208	0.0315
	(0.39)	(0.61)
0.techtype		0
		(.)
1.techtype		2.098**
		(3.25)
_cons	3.815***	3.214***
	(5.77)	(4.89)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 2.098% more of their funding as crowdfunding in 2016, but the effect of being a technology company on outsourcing did not change Round 1 funding in 2016 as a statistically insignificant predictor of crowdfunding as a % of total funding in 2016.

4.3.3.11 Round 1 funding, 2017

The regression of crowdfunding on Round 1 funding in 2017 was statistically significant, $F(1, 98) = 6.800$, $p = .0106$. The regression of crowdfunding on Round 1 funding in 2017 had an effect size of 0.064, indicating that roughly 6.4% of the variation in crowdfunding in 2017 could be explained by variation in Round 1 funding in 2017. The regression equation for the relationship between crowdfunding and Round 1 funding in 2017 was as follows:

Crowdfunding %, 2017 = (Round 1 funding %, 2017)(-0.077) + 4.569

Thus, every additional percentage a company's total finding from Round 1 funding in 2017 reduced crowdfunding received in 2017 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2017 on Round 1 funding in 2017 are presented in Table 51, which also includes the results of the original regression.

Table 51: Regression of Crowdfunding in 2017 on Round 1 Funding in 2017, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
ri	-0.0775*	-0.0112
	(-2.61)	(-0.65)
0.techtype		0
		(.)
1.techtype		3.416***
		(14.71)
_cons	4.570***	3.190***
	(13.02)	(14.66)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.416% more of their funding as crowdfunding in 2017, and the effect of being a technology company on outsourcing was strong enough to displace Round 1 funding in 2017 as a statistically significant predictor of crowdfunding as a % of total funding in 2017.

4.3.4 Round 2 funding Sub-RQ2.4 Results

Sub-RQ 2.4 was as follows: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on Round 2 funding?

4.3.4.1 Round 2 funding, all years

The regression of crowdfunding on Round 2 funding was statistically significant, $F(1, 998) = 4.040$, $p = .0446$. The regression of crowdfunding on Round 2 funding had an effect size of 0.004, indicating that roughly a half of 1% of the variation in crowdfunding could be explained by variation in Round 2 funding. The regression equation for the relationship between crowdfunding and Round 2 funding was as follows:

Crowdfunding % = (Round 2 funding %)(-0.041) + 4.275

Thus, every additional percentage a company's total finding from Round 2 funding reduced crowdfunding by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding on Round 2 funding are presented in Table 52 below, which also includes the results of the original regression.

Table 52: Regression of Crowdfunding in Round 2 Funding, No Covariate & Tech Covariate Models (Source: Author)

	(1) cfund	(2) cfund
rii	-0.0414*	-0.00859
	(-2.01)	(-0.47)
0.techtype		0
		(.)
1.techtype		3.193***
		(17.42)
_cons	4.275***	3.276***
	(22.74)	(18.79)
N	1000	1000

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.193% more of their funding as crowdfunding, and the effect of being a technology company on outsourcing was strong enough to displace Round 2 funding as a statistically significant predictor of crowdfunding as a % of total funding. The adjusted coefficient of determination of the regression of crowdfunding on Round 2 funding was 0.004, but this regression did not meet the assumption of heteroskedasticity of errors through the Breusch-Pagan / Cook-Weisberg test, $\chi^2 = 24.480$, $p < .001$. However, the same results were obtained through a RSE regression, so the findings reported above are statistically reliable.

4.3.4.2 Round 2 funding, 2008

The regression of crowdfunding on Round 2 funding in 2008 was statistically insignificant, $F(1, 98) = 1.990$, $p = .1612$. The regression of crowdfunding on Round 2 funding in 2008 had an effect size of 0.020, indicating that roughly 2% of the variation in crowdfunding in 2008 could be explained by variation in Round 2 funding in 2008. The regression equation for the relationship between crowdfunding and Round 2 funding in 2008 was as follows:

Crowdfunding %, 2008 = (Round 2 funding %, 2008)(-0.050) + 4.331

Thus, every additional percentage a company's total finding from Round 2 funding in 2008 reduced crowdfunding received in 2008 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2008 on Round 2 funding in 2008 are presented in Table 53, which also includes the results of the original regression.

Table 53: Regression of Crowdfunding in 2008 on Round 2 Funding in 2008, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
rii	-0.0503	-0.0219
	(-1.41)	(-1.06)
0.techtype		0
		(.)
1.techtype		2.988***
		(14.12)
_cons	4.332***	3.308***
	(12.42)	(15.51)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 2.988% more of their funding as crowdfunding in 2008, but the effect of being a technology company on outsourcing did not change Round 2 funding in 2008 as a statistically significant predictor of crowdfunding as a % of total funding in 2008.

4.3.4.3 Round 2 funding, 2009

The regression of crowdfunding on Round 2 funding in 2009 was statistically insignificant, $F(1, 98) < 0.001$, $p = .9675$. The regression of crowdfunding on Round 2 funding in 2009 had an effect size < .0001, indicating that very little of the variation in crowdfunding in 2009 could be explained by variation in Round 2 funding in 2009. The regression equation for the relationship between crowdfunding and Round 2 funding in 2009 was as follows:

Crowdfunding %, 2009 = (Round 2 funding %, 2009)(-0.002) + 4.276

Thus, every additional percentage a company's total finding from Round 2 funding in 2009 reduced crowdfunding received in 2009 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2009 on Round 2 funding in 2009 are presented in Table 54, which also includes the results of the original regression.

Table 54: Regression of Crowdfunding in 2009 on Round 2 Funding in 2009, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
rii	-0.00278	0.0506
	(-0.04)	(0.77)
0.techtype		0
		(.)
1.techtype		2.250***
		(3.66)
_cons	4.276***	3.350***
	(7.30)	(5.52)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 2.250% more of their funding as crowdfunding in 2009, but the effect of being a technology company on outsourcing did not change Round 2 funding in 2009 as a statistically insignificant predictor of crowdfunding as a % of total funding in 2009.

4.3.4.4 Round 2 funding, 2010.

The regression of crowdfunding on Round 2 funding in 2010 was statistically insignificant, $F(1, 98) = 0.190$, $p = .6653$. The regression of crowdfunding on Round 2 funding in 2010 had an effect size of 0.002, indicating that roughly a fifth of 1% of the variation in crowdfunding in 2010 could be explained by variation in Round 2 funding in 2010. The regression equation for the relationship between crowdfunding and Round 2 funding in 2010 was as follows:

Crowdfunding %, 2010 = (Round 2 funding %, 2010)(-0.014) + 3.689

Thus, every additional percentage a company's total finding from Round 2 funding in 2010 reduced crowdfunding received in 2010 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2010 on Round 2 funding in 2010 are presented in Table 55, which also includes the results of the original regression.

Table 55: Regression of Crowdfunding in 2010 on Round 2 Funding in 2010, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
rii	-0.0150	0.0131
	(-0.43)	(0.64)
0.techtype		0
		(.)
1.techtype		2.918***
		(13.61)
_cons	3.690***	2.897***
	(11.34)	(14.46)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 2.918% more of their funding as crowdfunding in 2010, as the effect of being a technology company on outsourcing did not change Round 2 funding in 2010 as a statistically insignificant predictor of crowdfunding as a % of total funding in 2010.

4.3.4.5 Round 2 funding, 2011

The regression of crowdfunding on Round 2 funding in 2011 was statistically insignificant, $F(1, 98) = 0.340$, $p = .5631$. The regression of crowdfunding on Round 2 funding in 2011 had an effect size of 0.003, indicating that roughly a third of 1% of the variation in crowdfunding in 2011 could be explained by variation in Round 2 funding in 2011. The regression equation for the relationship between crowdfunding and Round 2 funding in 2011 was as follows:

Crowdfunding %, 2011 = (Round 2 funding %, 2011)(-0.074) + 4.835

Thus, every additional percentage a company's total finding from Round 2 funding in 2011 reduced crowdfunding received in 2011 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2011 on Round 2 funding in 2011 are presented in Table 56, which also includes the results of the original regression.

Table 56: Regression of Crowdfunding in 2011 on Round 2 Funding in 2011, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
rii	-0.0742	0.00109
	(-0.58)	(0.01)
0.techtype		0
		(.)
1.techtype		5.449***
		(4.33)
_cons	4.836***	3.123**
	(4.35)	(2.85)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 5.449% more of their funding as crowdfunding in 2011, but the effect of being a technology company on outsourcing did not change Round 2 funding in 2011 as a statistically insignificant predictor of crowdfunding as a % of total funding in 2011.

4.3.4.6 Round 2 funding, 2012

The regression of crowdfunding on Round 2 funding in 2012 was statistically significant, $F(1, 98) = 1.570$, $p = .2131$. The regression of crowdfunding on Round 2 funding in 2012 had an effect size of 0.016, indicating that roughly 1.6% of the variation in crowdfunding in 2012 could be explained by variation in Round 2 funding in 2012. The regression equation for the relationship between crowdfunding and Round 2 funding in 2012 was as follows:

Crowdfunding %, 2012 = (Round 2 funding %, 2012)(0.058) + 3.475

Thus, every additional percentage a company's total finding from Round 2 funding in 2012 increased crowdfunding received in 2012 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2012 on Round 2 funding in 2012 are presented in Table 57, which also includes the results of the original regression.

Table 57: Regression of Crowdfunding in 2012 on Round 2 Funding in 2012, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
rii	0.0586	0.0289
	(1.25)	(1.05)
0.techtype		0
		(.)
1.techtype		3.358***
		(13.74)
_cons	3.475***	2.795***
	(8.66)	(11.64)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.358% more of their funding as crowdfunding in 2012, but the effect of being a technology company on outsourcing did not change Round 2 funding in 2012 as a statistically insignificant predictor of crowdfunding as a % of total funding in 2012.

4.3.4.7 Round 2 funding, 2013

The regression of crowdfunding on Round 2 funding in 2013 was statistically significant, $F(1, 98) = 7.370$, $p = .0078$. The regression of crowdfunding on Round 2 funding in 2013 had an effect size of 0.070, indicating that roughly 7% of the variation in crowdfunding in 2013 could be explained by variation in Round 2 funding in 2013. The regression equation for the relationship between crowdfunding and Round 2 funding in 2013 was as follows:

Crowdfunding %, 2013 = (Round 2 funding %, 2013)(-0.083) + 4.400

Thus, every additional percentage a company's total finding from Round 2 funding in 2013 reduced crowdfunding received in 2013 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2013 on Round 2 funding in 2013 are presented in Table 58, which also includes the results of the original regression.

Table 58: Regression of Crowdfunding in 2013 on Round 2 Funding in 2013, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
rii	-0.0834**	-0.0327
	(-2.71)	(-1.46)
0.techtype		0
		(.)
1.techtype		2.190***
		(9.81)
_cons	4.401***	3.437***
	(14.33)	(14.33)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 2.190% more of their funding as crowdfunding in 2013, and the effect of being a technology company on outsourcing was strong enough to displace Round 2 funding in 2013 as a statistically significant predictor of crowdfunding as a % of total funding in 2013.

4.3.4.8 Round 2 funding, 2014

The regression of crowdfunding on Round 2 funding in 2014 was statistically insignificant, $F(1, 98) = 0.400$, $p = .5285$. The regression of crowdfunding on Round 2 funding in 2014 had an effect size of 0.004, indicating that roughly a half of 1% of the variation in crowdfunding in 2014 could be explained by variation in Round 2 funding in 2014. The regression equation for the relationship between crowdfunding and Round 2 funding in 2014 was as follows:

Crowdfunding %, 2014 = (Round 2 funding %, 2014)(-0.057) + 4.446

Thus, every additional percentage a company's total finding from Round 2 funding in 2014 reduced crowdfunding received in 2014 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2014 on Round 2 funding in 2014 are presented in Table 59, which also includes the results of the original regression.

Table 59: Regression of Crowdfunding in 2014 on Round 2 Funding in 2014, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
rii	-0.0577	-0.0891
	(-0.63)	(-1.09)
0.techtype		0
		(.)
1.techtype		4.296***
		(5.17)
_cons	4.446***	3.728***
	(5.82)	(5.37)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 4.296% more of their funding as crowdfunding in 2014, but the effect of being a technology company on outsourcing did not change Round 2 funding in 2014 as a statistically insignificant predictor of crowdfunding as a % of total funding in 2014.

4.3.4.9 Round 2 funding, 2015

The regression of crowdfunding on Round 2 funding in 2015 was statistically insignificant, $F(1, 98) = 3.280$, $p = .0734$. The regression of crowdfunding on Round 2 funding in 2015 had an effect size of 0.032, indicating that roughly 3.2% of the variation in crowdfunding in 2015 could be explained by variation in Round 2 funding in 2015. The regression equation for the relationship between crowdfunding and Round 2 funding in 2015 was as follows:

Crowdfunding %, 2015 = (Round 2 funding %, 2015)(-0.085) + 4.720

Thus, every additional percentage a company's total finding from Round 2 funding in 2015 reduced crowdfunding received in 2015 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2015 on Round 2 funding in 2015 are presented in Table 60, which also includes the results of the original regression.

Table 60: Regression of Crowdfunding in 2015 on Round 2 Funding in 2015, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
rii	-0.0854	-0.0215
	(-1.81)	(-0.60)
0.techtype		0
		(.)
1.techtype		3.252***
		(8.92)
_cons	4.721***	3.355***
	(10.78)	(9.31)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.252% more of their funding as crowdfunding in 2015, but the effect of being a technology company on outsourcing did not change Round 2 funding in 2015 as a statistically insignificant predictor of crowdfunding as a % of total funding in 2015.

4.3.4.10 Round 2 funding, 2016

The regression of crowdfunding on Round 2 funding in 2016 was statistically insignificant, $F(1, 98) = 0.010$, $p = .9296$. The regression of crowdfunding on Round 2 funding in 2016 had an effect size < 0.001, indicating that very little of the variation in crowdfunding in 2016 could be explained by variation in Round 2 funding in 2016. The regression equation for the relationship between crowdfunding and Round 2 funding in 2016 was as follows:

Crowdfunding %, 2016 = (Round 2 funding %, 2016)(-0.006) + 4.094

Thus, every additional percentage a company's total finding from Round 2 funding in 2016 reduced crowdfunding received in 2016 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2016 on Round 2 funding in 2016 are presented in Table 61, which also includes the results of the original regression.

Table 61: Regression of Crowdfunding in 2016 on Round 2 Funding in 2016, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
rii	-0.00637	0.0122
	(-0.09)	(0.18)
0.techtype		0
		(.)
1.techtype		2.083**
		(3.21)
_cons	4.095***	3.471***
	(6.51)	(5.49)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 2.083% more of their funding as crowdfunding in 2016, but the effect of being a technology company on outsourcing did not change Round 2 funding in 2016 as a statistically insignificant predictor of crowdfunding as a % of total funding in 2016.

4.3.4.11 Round 2 funding, 2017

The regression of crowdfunding on Round 2 funding in 2017 was statistically insignificant, $F(1, 98) = 0.380$, $p = .5377$. The regression of crowdfunding on Round 2 funding in 2017 had an effect size of 0.004, indicating that roughly a half of 1% of the variation in crowdfunding in 2017 could be explained by variation in Round 2 funding in 2017. The regression equation for the relationship between crowdfunding and Round 2 funding in 2017 was as follows:

Crowdfunding %, 2017 = (Round 2 funding %, 2017)(-0.023) + 3.952

Thus, every additional percentage a company's total finding from Round 2 funding in 2017 reduced crowdfunding received in 2017 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2017 on Round 2 funding in 2017 are presented in Table 62, which also includes the results of the original regression.

Table 62: Regression of Crowdfunding in 2017 on Round 2 Funding in 2017, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
rii	-0.0230	0.0126
	(-0.62)	(0.62)
0.techtype		0
		(.)
1.techtype		3.472***
		(15.38)
_cons	3.952***	2.954***
	(11.03)	(14.43)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.472% more of their funding as crowdfunding in 2017, but the effect of being a technology company on outsourcing did not change Round 2 funding in 2017 as a statistically significant predictor of crowdfunding as a % of total funding in 2017.

4.3.5 Round 3 funding Sub-RQ2.5 Results

Sub-RQ 2.5 was as follows: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on Round 3 funding?

4.3.5.1 Round 3 funding, all years

The regression of crowdfunding on Round 3 funding was statistically significant, $F(1, 998) = 46.140$, $p < .0001$. The regression of crowdfunding on Round 3 funding had an effect size of 0.044, indicating that roughly 4.4% of the variation in crowdfunding could be explained by variation in Round 3 funding. The regression equation for the relationship between crowdfunding and Round 3 funding was as follows:

Crowdfunding % = (Round 3 funding %)(-0.159) + 4.829

Thus, every additional percentage a company's total finding from Round 3 funding reduced crowdfunding by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding on Round 3 funding are presented in Table 63 below, which also includes the results of the original regression.

Table 63: Regression of Crowdfunding in Round 3 Funding, No Covariate & Tech Covariate Models (Source: Author)

	(1) cfund	(2) cfund
riii	-0.160***	-0.0112
	(-6.79)	(-0.49)
0.techtype		0
		(.)
1.techtype		3.162***
		(15.85)
_cons	4.830***	3.276***
	(30.87)	(19.17)
N	1000	1000

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.162% more of their funding as crowdfunding, and the effect of being a technology company on outsourcing was strong enough to displace Round 3 funding as a statistically significant predictor of crowdfunding as a % of total funding. The adjusted coefficient of determination of the regression of crowdfunding on Round 3 funding was 0.044, but this regression did not meet the assumption of heteroskedasticity of errors through the Breusch-Pagan / Cook-Weisberg test, χ^2 = 271.300, p < .001. However, the same results were obtained through a RSE regression, so the findings reported above are statistically reliable.

4.3.5.2 Round 3 funding, 2008

The regression of crowdfunding on Round 3 funding in 2008 was statistically significant, $F(1, 98) = 7.520$, $p = .0073$. The regression of crowdfunding on Round 3 funding in 2008 had an effect size of 0.071, indicating that roughly 7.1% of the variation in crowdfunding in 2008 could be explained by variation in Round 3 funding in 2008. The regression equation for the relationship between crowdfunding and Round 3 funding in 2008 was as follows:

Crowdfunding %, 2008 = (Round 3 funding %, 2008)(-0.111) + 4.464

Thus, every additional percentage a company's total finding from Round 3 funding in 2008 reduced crowdfunding received in 2008 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2008 on Round 3 funding in 2008 are presented in Table 64, which also includes the results of the original regression.

Table 64: Regression of Crowdfunding in 2008 on Round 3 Funding in 2008, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
riii	-0.112**	0.0279
	(-2.74)	(1.07)
0.techtype		0
		(.)
1.techtype		3.107***
		(13.56)
_cons	4.464***	2.944***
	(17.17)	(15.49)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.107% more of their funding as crowdfunding in 2008, and the effect of being a technology company on outsourcing was strong enough to displace Round 3 funding in 2008 as a statistically significant predictor of crowdfunding as a % of total funding in 2008.

4.3.5.3 Round 3 funding, 2009

The regression of crowdfunding on Round 3 funding in 2009 was statistically insignificant, $F(1, 98) = 1.040$, $p = .3093$. The regression of crowdfunding on Round 3 funding in 2009 had an effect size of 0.010, indicating that roughly 1% of the variation in crowdfunding in 2009 could be explained by variation in Round 3 funding in 2009. The regression equation for the relationship between crowdfunding and Round 3 funding in 2009 was as follows:

Crowdfunding %, 2009 = (Round 3 funding %, 2009)(-0.079) + 4.690

Thus, every additional percentage a company's total finding from Round 3 funding in 2009 reduced crowdfunding received in 2009 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2009 on Round 3 funding in 2009 are presented in Table 65, which also includes the results of the original regression.

Table 65: Regression of Crowdfunding in 2009 on Round 3 Funding in 2009, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
riii	-0.0793	0.0260
	(-1.02)	(0.33)
0.techtype		0
		(.)
1.techtype		2.227***
		(3.42)
_cons	4.690***	3.600***
	(9.33)	(6.27)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 2.227% more of their funding as crowdfunding in 2009, but the effect of being a technology company on outsourcing did not change Round 3 funding in 2009 as a statistically insignificant predictor of crowdfunding as a % of total funding in 2009.

4.3.5.4 Round 3 funding, 2010

The regression of crowdfunding on Round 3 funding in 2010 was statistically significant, $F(1, 98) = 8.850$, $p = .0037$. The regression of crowdfunding on Round 3 funding in 2010 had an effect size of 0.082, indicating that roughly 8%.2 of the variation in crowdfunding in 2010 could be explained by variation in Round 3 funding in 2010. The regression equation for the relationship between crowdfunding and Round 3 funding in 2010 was as follows:

Crowdfunding %, 2010 = (Round 3 funding %, 2010)(-0.101) + 4.182

Thus, every additional percentage a company's total finding from Round 3 funding in 2010 reduced crowdfunding received in 2010 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2010 on Round 3 funding in 2010 are presented in Table 66, which also includes the results of the original regression.

Table 66: Regression of Crowdfunding in 2010 on Round 3 Funding in 2010, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
riii	-0.101**	0.0222
	(-2.97)	(0.97)
0.techtype		0
		(.)
1.techtype		3.000***
		(12.80)
_cons	4.183***	2.857***
	(16.80)	(15.49)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.000% more of their funding as crowdfunding in 2010, and the effect of being a technology company on outsourcing was strong enough to displace Round 3 funding in 2010 as a statistically significant predictor of crowdfunding as a % of total funding in 2010.

4.3.5.5 Round 3 funding, 2011

The regression of crowdfunding on Round 3 funding in 2011 was statistically significant, $F(1, 98) = 6.100$, $p = .015$. The regression of crowdfunding on Round 3 funding in 2011 had an effect size of 0.058, indicating that roughly 5.8% of the variation in crowdfunding in 2011 could be explained by variation in Round 3 funding in 2011. The regression equation for the relationship between crowdfunding and Round 3 funding in 2011 was as follows:

Crowdfunding %, 2011 = (Round 3 funding %, 2011)(-0.378) + 6.421

Thus, every additional percentage a company's total finding from Round 3 funding in 2011 reduced crowdfunding received in 2011 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2011 on Round 3 funding in 2011 are presented in Table 67, which also includes the results of the original regression.

Table 67: Regression of Crowdfunding in 2011 on Round 3 Funding in 2011, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
riii	-0.379*	-0.103
	(-2.47)	(-0.63)
0.techtype		0
		(.)
1.techtype		5.034***
		(3.58)
_cons	6.421***	3.801**
	(6.29)	(3.14)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 5.034% more of their funding as crowdfunding in 2011, and the effect of being a technology company on outsourcing was strong enough to displace Round 3 funding in 2011 as a statistically significant predictor of crowdfunding as a % of total funding in 2011.

4.3.5.6 Round 3 funding, 2012

The regression of crowdfunding on Round 3 funding in 2012 was statistically significant, $F(1, 98) = 9.960$, $p = .0021$. The regression of crowdfunding on Round 3 funding in 2012 had an effect size of 0.092, indicating that roughly 9.2% of the variation in crowdfunding in 2012 could be explained by variation in Round 3 funding in 2012. The regression equation for the relationship between crowdfunding and Round 3 funding in 2012 was as follows:

Crowdfunding %, 2012 = (Round 3 funding %, 2012)(-0.157) + 4.722

Thus, every additional percentage a company's total finding from Round 3 funding in 2012 reduced crowdfunding received in 2012 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2012 on Round 3 funding in 2012 are presented in Table 68, which also includes the results of the original regression.

Table 68: Regression of Crowdfunding in 2012 on Round 3 Funding in 2012, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
riii	-0.157**	0.0271
	(-3.16)	(0.81)
0.techtype		0
		(.)
1.techtype		3.471***
		(12.86)
_cons	4.722***	2.846***
	(15.26)	(11.91)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.471% more of their funding as crowdfunding in 2012, and the effect of being a technology company on outsourcing was strong enough to displace Round 3 funding in 2012 as a statistically significant predictor of crowdfunding as a % of total funding in 2012.

4.3.5.7 Round 3 funding, 2013

The regression of crowdfunding on Round 3 funding in 2013 was statistically significant, $F(1, 98) = 14.410$, $p = .0003$. The regression of crowdfunding on Round 3 funding in 2013 had an effect size of 0.128, indicating that roughly 13% of the variation in crowdfunding in 2013 could be explained by variation in Round 3 funding in 2013. The regression equation for the relationship between crowdfunding and Round 3 funding in 2013 was as follows:

Crowdfunding %, 2013 = (Round 3 funding %, 2013)(-0.133) + 4.407

Thus, every additional percentage a company's total finding from Round 3 funding in 2013 reduced crowdfunding received in 2013 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2013 on Round 3 funding in 2013 are presented in Table 69, which also includes the results of the original regression.

Table 69: Regression of Crowdfunding in 2013 on Round 3 Funding in 2013, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
riii	-0.134***	-0.0261
	(-3.80)	(-0.91)
0.techtype		0
		(.)
1.techtype		2.174***
		(9.04)
_cons	4.408***	3.292***
	(18.62)	(15.36)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 2.174% more of their funding as crowdfunding in 2013, and the effect of being a technology company on outsourcing was strong enough to displace Round 3 funding in 2013 as a statistically significant predictor of crowdfunding as a % of total funding in 2013.

4.3.5.8 Round 3 funding, 2014

The regression of crowdfunding on Round 3 funding in 2014 was statistically insignificant, $F(1, 98) = 1.800$, $p = .1832$. The regression of crowdfunding on Round 3 funding in 2014 had an effect size of 0.079, indicating that roughly 8% of the variation in crowdfunding in 2014 could be explained by variation in Round 3 funding in 2014. The regression equation for the relationship between crowdfunding and Round 3 funding in 2014 was as follows:

Crowdfunding %, 2014 = (Round 3 funding %, 2014)(-0.134) + 4.806

Thus, every additional percentage a company's total finding from Round 3 funding in 2014 reduced crowdfunding received in 2014 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2014 on Round 3 funding in 2014 are presented in Table 70, which also includes the results of the original regression.

Table 70: Regression of Crowdfunding in 2014 on Round 3 Funding in 2014, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
riii	-0.134	0.0155
	(-1.34)	(0.16)
0.techtype		0
		(.)
1.techtype		4.274***
		(4.85)
_cons	4.806***	2.998***
	(6.91)	(4.11)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 4.274% more of their funding as crowdfunding in 2014, but the effect of being a technology company on outsourcing did not change Round 3 funding in 2014 as a statistically insignificant predictor of crowdfunding as a % of total funding in 2014.

4.3.5.9 Round 3 funding, 2015

The regression of crowdfunding on Round 3 funding in 2015 was statistically significant, $F(1, 98) = 8.540$, $p = .0043$. The regression of crowdfunding on Round 3 funding in 2015 had an effect size of 0.080, indicating that roughly 8% of the variation in crowdfunding in 2015 could be explained by variation in Round 3 funding in 2015. The regression equation for the relationship between crowdfunding and Round 3 funding in 2015 was as follows:

Crowdfunding %, 2015 = (Round 3 funding %, 2015)(-0.172) + 4.905

Thus, every additional percentage a company's total finding from Round 3 funding in 2015 reduced crowdfunding received in 2015 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2015 on Round 3 funding in 2015 are presented in Table 71, which also includes the results of the original regression.

Table 71: Regression of Crowdfunding in 2015 on Round 3 Funding in 2015, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
riii	-0.173**	-0.00520
	(-2.92)	(-0.11)
0.techtype		0
		(.)
1.techtype		3.279***
		(8.38)
_cons	4.905***	3.199***
	(13.47)	(9.27)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.279% more of their funding as crowdfunding in 2015, and the effect of being a technology company on outsourcing was strong enough to displace Round 3 funding in 2015 as a statistically significant predictor of crowdfunding as a % of total funding in 2015.

4.3.5.10 Round 3 funding, 2016

The regression of crowdfunding on Round 3 funding in 2016 was statistically significant, $F(1, 98) = 6.130$, $p = .015$. The regression of crowdfunding on Round 3 funding in 2016 had an effect size of 0.058, indicating that roughly 6% of the variation in crowdfunding in 2016 could be explained by variation in Round 3 funding in 2016. The regression equation for the relationship between crowdfunding and Round 3 funding in 2016 was as follows:

Crowdfunding %, 2016 = (Round 3 funding %, 2016)(-0.183) + 5.054

Thus, every additional percentage a company's total finding from Round 3 funding in 2016 reduced crowdfunding received in 2016 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2016 on Round 3 funding in 2016 are presented in Table 72, which also includes the results of the original regression.

Table 72: Regression of Crowdfunding in 2016 on Round 3 Funding in 2016, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
riii	-0.184*	-0.110
	(-2.48)	(-1.39)
0.techtype		0
		(.)
1.techtype		1.699*
		(2.45)
_cons	5.054***	4.255***
	(10.27)	(7.33)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 1.699% more of their funding as crowdfunding in 2016, and the effect of being a technology company on outsourcing was strong enough to displace Round 3 funding in 2016 as a statistically significant predictor of crowdfunding as a % of total funding in 2016.

4.3.5.11 Round 3 funding, 2017

The regression of crowdfunding on Round 3 funding in 2017 was statistically significant, $F(1, 98) = 12.440$, $p = .0006$. The regression of crowdfunding on Round 3 funding in 2017 had an effect size of 0.113, indicating that roughly 11.3% of the variation in crowdfunding in 2017 could be explained by variation in Round 3 funding in 2017. The regression equation for the relationship between crowdfunding and Round 3 funding in 2017 was as follows:

Crowdfunding %, 2017 = (Round 3 funding %, 2017)(-0.164) + 4.750

Thus, every additional percentage a company's total finding from Round 3 funding in 2017 reduced crowdfunding received in 2017 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2017 on Round 3 funding in 2017 are presented in Table 73, which also includes the results of the original regression.

Table 73: Regression of Crowdfunding in 2017 on Round 3 Funding in 2017, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
riii	-0.164***	0.0204
	(-3.53)	(0.69)
0.techtype		0
		(.)
1.techtype		3.531***
		(14.16)
_cons	4.751***	2.926***
	(14.73)	(12.97)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.531% more of their funding as crowdfunding in 2017, and the effect of being a technology company on outsourcing was strong enough to displace Round 3 funding in 2017 as a statistically significant predictor of crowdfunding as a % of total funding in 2017.

4.3.6 All funding's Sub-RQ2.6 Results

Sub-RQ 2.6 was as follows: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on all other kinds of funding combined?

4.3.6.1 All funding, all years

The regression of crowdfunding on total funding was statistically significant, $F(1, 998) = 48.360$, $p < .0001$. The regression of crowdfunding on total funding had an effect size of 0.046, indicating that roughly 4.6% of the variation in crowdfunding could be explained by variation in total funding. The regression equation for the relationship between crowdfunding and total funding was as follows:

Crowdfunding % = (Total Funding %)(-0.043) + 6.466

Thus, every additional percentage a company's total finding from total funding reduced crowdfunding by roughly the amount indicated above.

The results of adding technology company status to the regression of crowdfunding on total funding are presented in Table 74 below, which also includes the results of the original regression.

Table 74: Regression of Crowdfunding on Total Funding, No Covariate & Tech Covariate Models (Source: Author)

	(1) cfund	(2) cfund
tnonc	-0.0438***	0.00541
	(-6.95)	(0.84)
0.techtype		0
		(.)
1.techtype		3.286***
		(15.78)
_cons	6.466***	2.873***
	(17.33)	(7.11)
N	1000	1000

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.286% more of their funding as crowdfunding, and the effect of being a technology company on outsourcing was strong enough to displace total funding as a statistically significant predictor of crowdfunding as a % of total funding. The adjusted coefficient of determination of the regression of crowdfunding on total funding was 0.046, but this regression did not meet the assumption of heteroskedasticity of errors through the Breusch-Pagan / Cook-Weisberg test, $\chi^2 = 31.710$, $p < .001$. However, the same results were obtained through a RSE regression, so the findings reported above are statistically reliable.

4.3.6.2 All funding, 2008.

The regression of crowdfunding on total funding in 2008 was statistically significant, $F(1, 98) = 20.380$, $p < .0001$. The regression of crowdfunding on total funding in 2008 had an effect size of 0.172, indicating that roughly 17.2% of the variation in crowdfunding in 2008 could be explained by variation in total funding in 2008. The regression equation for the relationship between crowdfunding and total funding in 2008 was as follows:

Crowdfunding %, 2008 = (Total funding %, 2008)(-0.046) + 6.553

Thus, every additional percentage a company's total finding from total funding in 2008 reduced crowdfunding received in 2008 by roughly the amount indicated above.

The results of adding technology company status to the regression of crowdfunding in 2008 on total funding in 2008 are presented in Table 75, which also includes the results of the original regression.

Table 75: Regression of Crowdfunding in 2008 on Total Funding in 2008, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
tnonc	-0.0467***	0.00656
	(-4.51)	(0.84)
0.techtype		0
		(.)
1.techtype		3.129***
		(12.34)
_cons	6.554***	2.708***
	(10.79)	(5.50)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.129% more of their funding as crowdfunding in 2008, and the effect of being a technology company on outsourcing was strong enough to displace total funding in 2008 as a statistically significant predictor of crowdfunding as a % of total funding in 2008.

4.3.6.3 All funding, 2009

The regression of crowdfunding on total funding in 2009 was statistically insignificant, $F(1, 98) = 0.980$, $p = .3241$. The regression of crowdfunding on total funding in 2009 had an effect size of 0.001, indicating that roughly a tenth of 1% of the variation in crowdfunding in 2009 could be explained by variation in total funding in 2009. The regression equation for the relationship between crowdfunding and total funding in 2009 was as follows:

Crowdfunding %, 2009 = (Total funding %, 2009)(-0.019) + 5.365

Thus, every additional percentage a company's total finding from total funding in 2009 reduced crowdfunding received in 2009 by roughly the amount indicated above.

The results of adding technology company status to the regression of crowdfunding in 2009 on total funding in 2009 are presented in Table 76, which also includes the results of the original regression.

Table 76: Regression of Crowdfunding in 2009 on Total Funding in 2009, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
tnonc	-0.0193	0.0144
	(-0.99)	(0.69)
0.techtype		0
		(.)
1.techtype		2.361***
		(3.49)
_cons	5.365***	2.886*
	(4.66)	(2.22)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 2.361% more of their funding as crowdfunding in 2009, but the effect of being a technology company on outsourcing did not change total funding in 2009 as a statistically insignificant predictor of crowdfunding as a % of total funding in 2009.

4.3.6.4 All funding, 2010

The regression of crowdfunding on total funding in 2010 was statistically significant, $F(1, 98) = 25.570$, $p < .0001$. The regression of crowdfunding on total funding in 2010 had an effect size of 0.207, indicating that roughly 20.7% of the variation in crowdfunding in 2010 could be explained by variation in total funding in 2010. The regression equation for the relationship between crowdfunding and total funding in 2010 was as follows:

Crowdfunding %, 2010 = (Total funding %, 2010)(-0.049) + 6.490

Thus, every additional percentage a company's total finding from total funding in 2010 reduced crowdfunding received in 2010 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2010 on total funding in 2010 are presented in Table 77, which also includes the results of the original regression.

Table 77: Regression of Crowdfunding in 2010 on Total Funding in 2010, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
tnonc	-0.0497***	-0.00286
	(-5.06)	(-0.37)
0.techtype		0
		(.)
1.techtype		2.854***
		(11.25)
_cons	6.491***	3.189***
	(10.95)	(6.51)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 2.854% more of their funding as crowdfunding in 2010, and the effect of being a technology company on outsourcing was strong enough to displace total funding in 2010 as a statistically significant predictor of crowdfunding as a % of total funding in 2010.

4.3.6.5 All funding, 2011

The regression of crowdfunding on total funding in 2011 was statistically insignificant, $F(1, 98) = 26601$, $p = .1064$. The regression of crowdfunding on total funding in 2011 had an effect size of 0.026, indicating that roughly 2.6% of the variation in crowdfunding in 2011 could be explained by variation in total funding in 2011. The regression equation for the relationship between crowdfunding and total funding in 2011 was as follows:

Crowdfunding %, 2011 = (Total funding %, 2011)(-0.063) + 7.883

Thus, every additional percentage a company's total finding from total funding in 2011 reduced crowdfunding received in 2011 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2011 on total funding in 2011 are presented in Table 78, which also includes the results of the original regression.

Table 78: Regression of Crowdfunding in 2011 on Total Funding in 2011, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
tnonc	-0.0639	0.0125
	(-1.63)	(0.30)
0.techtype		0
		(.)
1.techtype		5.643***
		(4.03)
_cons	7.884***	2.387
	(3.46)	(0.95)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 5.643% more of their funding as crowdfunding in 2011, but the effect of being a technology company on outsourcing did not change total funding in 2011 as a statistically insignificant predictor of crowdfunding as a % of total funding in 2011.

4.3.6.6 All funding, 2012

The regression of crowdfunding on total funding in 2012 was statistically significant, $F(1, 98) = 19.740$, $p < .0001$. The regression of crowdfunding on total funding in 2012 had an effect size of 0.167, indicating that roughly 16.7% of the variation in crowdfunding in 2012 could be explained by variation in total funding in 2012. The regression equation for the relationship between crowdfunding and total funding in 2012 was as follows:

Crowdfunding %, 2012 = (Total funding %, 2012)(-0.059) + 7.242

Thus, every additional percentage a company's total finding from total funding in 2012 reduced crowdfunding received in 2012 by roughly the amount indicated above.

The results of adding technology company status to the regression of crowdfunding in 2012 on total funding in 2012 are presented in Table 79, which also includes the results of the original regression.

Table 79: Regression of Crowdfunding in 2012 on Total Funding in 2012, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
tnonc	-0.0596***	-0.00727
	(-4.44)	(-0.76)
0.techtype		0
		(.)
1.techtype		3.284***
		(11.97)
_cons	7.242***	3.440***
	(9.45)	(5.90)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.284% more of their funding as crowdfunding in 2012, and the effect of being a technology company on outsourcing was strong enough to displace total funding in 2012 as a statistically significant predictor of crowdfunding as a % of total funding in 2012.

4.3.6.7 All funding, 2013

The regression of crowdfunding on total funding in 2013 was statistically significant, $F(1, 98) = 25.210$, $p < .0001$. The regression of crowdfunding on total funding in 2013 had an effect size of 0.204, indicating that roughly 20.4% of the variation in crowdfunding in 2013 could be explained by variation in total funding in 2013. The regression equation for the relationship between crowdfunding and total funding in 2013 was as follows:

Crowdfunding %, 2013 = (Total funding %, 2013)(-0.042) + 6.215

Thus, every additional percentage a company's total finding from total funding in 2013 reduced crowdfunding received in 2013 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2013 on total funding in 2013 are presented in Table 80, which also includes the results of the original regression.

Table 80: Regression of Crowdfunding in 2013 on Total Funding in 2013, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
tnonc	-0.0427***	-0.000104
	(-5.02)	(-0.01)
0.techtype		0
		(.)
1.techtype		2.263***
		(8.05)
_cons	6.215***	3.129***
	(11.82)	(5.58)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 2.263% more of their funding as crowdfunding in 2013, and the effect of being a technology company on outsourcing was strong enough to displace total funding in 2013 as a statistically significant predictor of crowdfunding as a % of total funding in 2013.

4.3.6.8 All funding, 2014

The regression of crowdfunding on total funding in 2014 was statistically insignificant, $F(1, 98) = 2.660$, $p = .0046$. The regression of crowdfunding on total funding in 2014 had an effect size of 0.026, indicating that roughly 2.6% of the variation in crowdfunding in 2014 could be explained by variation in total funding in 2014. The regression equation for the relationship between crowdfunding and total funding in 2014 was as follows:

Crowdfunding %, 2014 = (Total funding %, 2014)(-0.046) + 6.645

Thus, every additional percentage a company's total finding from total funding in 2014 reduced crowdfunding received in 2014 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2014 on total funding in 2014 are presented in Table 81, which also includes the results of the original regression.

Table 81: Regression of Crowdfunding in 2014 on Total Funding in 2014, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
tnonc	-0.0465	-0.00405
	(-1.63)	(-0.15)
0.techtype		0
		(.)
1.techtype		4.185***
		(4.74)
_cons	6.646***	3.336*
	(4.03)	(2.02)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 4.185% more of their funding as crowdfunding in 2014, but the effect of being a technology company on outsourcing did not change total funding in 2014 as a statistically insignificant predictor of crowdfunding as a % of total funding in 2014.

4.3.6.9 All funding, 2015

The regression of crowdfunding on total funding in 2015 was statistically significant, $F(1, 98) = 13.180$, $p = .0005$. The regression of crowdfunding on total funding in 2015 had an effect size of 0.118, indicating that roughly 12% of the variation in crowdfunding in 2015 could be explained by variation in total funding in 2015. The regression equation for the relationship between crowdfunding and total funding in 2015 was as follows:

Crowdfunding %, 2015 = (Total funding %, 2015)(-0.053) + 7.100

Thus, every additional percentage a company's total finding from total funding in 2015 reduced crowdfunding received in 2015 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2015 on total funding in 2015 are presented in Table 82, which also includes the results of the original regression.

Table 82: Regression of Crowdfunding in 2015 on Total Funding in 2015, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
tnonc	-0.0540***	-0.00785
	(-3.63)	(-0.61)
0.techtype		0
		(.)
1.techtype		3.188***
		(7.99)
_cons	7.100***	3.644***
	(8.16)	(4.52)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.188% more of their funding as crowdfunding in 2015, and the effect of being a technology company on outsourcing was strong enough to displace total funding in 2015 as a statistically significant predictor of crowdfunding as a % of total funding in 2015.

4.3.6.10 All funding, 2016

The regression of crowdfunding on total funding in 2016 was statistically insignificant, $F(1, 98) = 0.260$, $p = .06098$. The regression of crowdfunding on total funding in 2016 had an effect size of 0.003, indicating that roughly a third of 1% of the variation in crowdfunding in 2016 could be explained by variation in total funding in 2016. The regression equation for the relationship between crowdfunding and total funding in 2016 was as follows:

Crowdfunding %, 2016 = (Total funding %, 2016)(-0.010) + 4.693

Thus, every additional percentage a company's total finding from total funding in 2016 reduced crowdfunding received in 2016 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2016 on total funding in 2016 are presented in Table 83, which also includes the results of the original regression.

Table 83: Regression of Crowdfunding in 2016 on Total Funding in 2016, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
tnonc	-0.0109	0.0333
	(-0.51)	(1.40)
0.techtype		0
		(.)
1.techtype		2.637***
		(3.49)
_cons	4.693***	1.454
	(3.62)	(0.94)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 2.637% more of their funding as crowdfunding in 2016, but the effect of being a technology company on outsourcing did not change total funding in 2016 as a statistically significant predictor of crowdfunding as a % of total funding in 2016.

4.3.6.11 All funding, 2017

The regression of crowdfunding on total funding in 2017 was statistically significant, $F(1, 98) = 12.810$, $p = .0005$. The regression of crowdfunding on total funding in 2017 had an effect size of 0.116, indicating that roughly 11.6% of the variation in crowdfunding in 2017 could be explained by variation in total funding in 2017. The regression equation for the relationship between crowdfunding and total funding in 2017 was as follows:

Crowdfunding %, 2017 = (Total funding %, 2017)(-0.040) + 6.139

Thus, every additional percentage a company's total finding from total funding in 2017 reduced crowdfunding received in 2017 by roughly the amount indicated above. The results of adding technology company status to the regression of crowdfunding in 2017 on total funding in 2017 are presented in Table 84, which also includes the results of the original regression.

Table 84: Regression of Crowdfunding in 2017 on Total Funding in 2017, Tech Covariate (Source: Author)

	(1) cfund	(2) cfund
tnonc	-0.0407***	0.00491
	(-3.58)	(0.67)
0.techtype		0
		(.)
1.techtype		3.531***
		(14.12)
_cons	6.140***	2.762***
	(8.98)	(6.00)
N	100	100

t statistics in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Thus, technology companies received 3.531% more of their funding as crowdfunding in 2017, and the effect of being a technology company on outsourcing was strong enough to displace total funding in 2017 as a statistically significant predictor of crowdfunding as a % of total funding in 2017.

4.4 RQ3 Results

RQ3 was as follows: What is the potential impact on the traditional financing market of a shift in SME financing demand from financial institutions to crowdfunding platforms? RQ3 was important insofar as, while RQ2 identified the existence of a trade-off between crowdfunding and traditional funding (such that SMEs decreased their reliance on traditional funding in the presence of added crowdfunding), RQ3 explored the impact of this trade-off through expert opinions. RQ2 did not identify any reasons for the trade-off between crowdfunding and traditional funding, because RQ3 was designed for this specific purpose. RQ3 was answered by means of the Delphi Method as described in Chapter 3. The following questions were posted in order to elicit data for RQ3:

1. What do you feel about the importance of crowdfunding in the overall funding strategy of SMEs? Is crowdfunding likely to be important or unimportant? If so, why?
2. If crowdfunding should become more important as a funding strategy, what kinds of effects might this increasing importance have on traditional funding and the traditional funding marketplace? Please explain your reasoning.

3. Please discuss what you consider to be plausible future scenarios about the possible changes to traditional funding that might be wrought by increased crowdfunding. What are some plausible scenarios? Which scenario do you consider to be the most likely?
4. Please discuss how you see crowdfunding as changing over time. Is it becoming more or less prevalent? Why?
5. Having seen what some of your colleagues think about the impact of crowdfunding on traditional funding, have you changed your own opinions? Why or why not?
6. Please respond to any of your colleagues' claims or answers that you find interesting—whether because you agree or disagree with them.

A number of themes emerged from the RQ3 results. These themes have been discussed below, with each discussion containing representative quotes, an exploration of the theme itself, and notes on the agreement and disagreement with the theme across the sample of Delphi experts assembled for RQ3.

4.4.1 Theme #1: Crowdfunding is a Niche

The first theme to emerge from the data gathered for the Delphi Method as applied to RQ3 was the theme of crowdfunding being a niche. Of the 46 experts who contributed data for RQ3, 15 were explicit in identifying crowdfunding as a niche, that is, as a form of funding that was still in its infancy and of limited importance, both to companies in Germany and in the global context. None of the 46 experts who contributed data for RQ3 were against this claim; thus, there were no discrepant data to be considered as part of the theme of crowdfunding being a niche, and none of the 15 experts who supported this interpretation of the importance of crowdfunding changed in their minds in the second wave of the Delphi analysis for RQ3.

Table 85 below contains quotes from select participants who indicated their belief that crowdfunding was a niche.

Table 85: Table of Representative Comments, RQ3: Crowdfunding is a Niche (Source: Author)

Participant #	Comment
7	If you look at the existing data, crowdfunding is a niche option. It's just starting out. The fact, it hasn't displaced traditional methods of funding yet, so I wouldn't describe it as being important for SMEs.
15	Of course, there are examples of successful crowdfunding, but those are very limited. I don't think I would describe crowdfunding as an important funding strategy. I'd like to think it's more of a novelty, although that could change.
25	I'm not an evangelist of crowdfunding. I don't think it's widespread or viable for the vast, vast majority of companies or individual investors.
29	The wisdom of crowds theory is all well and good, but the public isn't ready to treat crowdfunding with the same kind of trust that goes into buying existing, lower-risk instruments with closer guidance from advisors and other third parties. There's too much risk in crowdfunding, so it's a small financing alternative right now.
41	Crowdfunding is a nascent funding approach.
45	Crowdfunding is far from mature.

The theme of crowdfunding as a niche strategy was synthesized from the types of keywords that are represented in Table 85 above, that is, *niche*, *limited*, [not] *widespread*, *small*, *nascent*, and *far from mature*. Thus, content analysis, facilitated by NVivo 12.1 software, succeeded in synthesizing the theme of crowdfunding being a niche approach from the bottom up, through analysis of text keywords. Subsequent researcher examination of the comments in their context supported the synthesis of the theme of crowdfunding as a niche funding approach. In terms of the first theme associated with RQ3, that of crowdfunding being a niche strategy,

there was unanimous consensus among the experts assembled via the Delphi Method that crowdfunding was not yet equal to traditional funding sources in terms of its importance.

4.4.2 Theme #2: Crowdfunding: A Limited Future

The second theme to emerge from the data gathered for the Delphi Method as applied to RQ3 was the theme of the limited future of crowdfunding. Of the 46 experts who contributed data for RQ3, 13 were explicit in identifying crowdfunding as having a

limited future, that is, as a form of funding that is unlikely to grow beyond a modest potential, both with respect to companies in Germany and globally. None of the 46 experts who contributed data for RQ3 were against this claim; thus, there were no discrepant data to be considered as part of the theme of crowdfunding having a limited future, and none of the 13 experts who supported this interpretation of the importance of crowdfunding changed in their minds in the second wave of the Delphi analysis for RQ3. The Table 86 below contains quotes from select participants who indicated their belief that crowdfunding had a limited future.

Table 86: Table of Representative Comments, RQ3: Crowdfunding Has a Limited Future (Source: Author)

Participant #	Comment
7	There's definitely a ceiling that crowdfunding hasn't reached yet. I think that's more true in Europe than in the United States. In the future, I can see SMEs getting maybe a tenth of their funding from crowdfunding, simply because individual investors are going to appreciate skipping commissions and chasing higher returns by investing in SMEs in their early stages.
15	Does crowdfunding have a bright future? It depends on what we mean by a bright future! Is crowdfunding going to really displace traditional funding? No. I'll explain my reasons for this below. But let me just note that I do expect crowdfunding to increase its relative share against traditional means of funding.
29	Crowdfunding can get so far, and no farther.

The theme of crowdfunding having a limited future was synthesized from the types of keywords that are represented in Table 86 above, that is, *ceiling*, *relative share*, and *no farther*.

Thus, content analysis, facilitated by NVivo 12.1 software, succeeded in synthesizing the theme of crowdfunding having a limited future from the bottom up, through analysis of text keywords. Subsequent researcher examination of the comments in their context supported the synthesis of the theme of crowdfunding as having a limited future. In terms of the second theme associated with RQ3, that of crowdfunding having a limited future, there was unanimous consensus among the experts assembled via the Delphi Method that crowdfunding was not likely to become equal to traditional funding sources in terms of its importance.

4.4.3 Theme #3: Crowdfunding: Limited Market Impact

The third theme to emerge from the data gathered for the Delphi Method as applied to RQ3 was the theme of the crowdfunding having a limited impact on the market. This theme was the third and final theme for RQ3 in that it built directly on the first and second themes. RQ3 was as follows: What is the potential impact on the traditional financing market of a shift in SME financing demand from financial institutions to crowdfunding platforms? Essentially, the theme of limited market impact posed the answer that there is going to be a limited impact of crowdfunding on finance because (a) crowdfunding is currently niche and (b) crowdfunding is expected to remain niche. From reasons (a) and (b), therefore, it can be inferred that, according to the experts surveyed for RQ3, market impact will be limited. This point was made explicitly by 15 of the 46 experts who submitted data for RQ3. None of the 46 experts who contributed data for RQ3 were against this claim; thus, there were no discrepant data to be considered as part of the theme of crowdfunding having a limited impact on the market, and none of the 15 experts who supported this interpretation of the importance of crowdfunding changed in their minds in the second wave of the Delphi analysis for RQ3.

One representative quote, from Participant #1, nearly summarized the third theme in its entirety:

If—and that's a big *if*—the demand for crowdfunding increases radically, then you'd probably see traditional funding sources either take some steps back or somehow insert themselves into the crowdfunding process. But I want to emphasize that I won't believe in this *if*. For a lot of reasons—and not even primarily because of regulations or laws—crowdfunding is going to have a minimal impact on the market, because there are all kinds of game-theoretic reasons that crowdfunding will never constitute more than a small percentage of funding for the vast majority of SMEs. Crowdfunding isn't there today, I mean, as a true alternative to traditional funding, so it's already having a limited impact on the market. What I'm claiming is that crowdfunding won't be there tomorrow either, so that big market impact's never coming. Some incremental changes and challenges are all we can reliably expect.

Participant #7 had a somewhat different approach, one that was rooted in a consideration of regulation, but one that culminated in the same general conclusion as that offered by Participant #1.

The bottom line is, just about wherever you are in the world, there's going to be a cap on crowdfunding imposed by regulation, which is why I want to emphasize my belief that crowdfunding isn't going to have a much bigger impact on the marketplace than it's already having today—which is to say, a modest impact. If you look at the U.S., where crowdfunding really began and which is still the biggest market for crowdfunding, you can see the involvement of the Securities and Exchange Commission, which is imposing caps on the amount of crowdfunding that can be obtained by any one company. Closely related to this issue of regulation is that of market structure. Regulation's creating pathways for companies to draw on crowdfunding as a kind of adjunct to traditional funding. None of that's going to affect the traditional funding market. The traditional players and the crowdfunding players are kind of siloed off, each in their worlds, and these worlds aren't going to meet. You might see a small displacement of traditional funding if crowdfunding claims a greater relative share, but you won't really see crowdfunding altering the traditional funding marketplace in any meaningful way.

In terms of the third theme associated with RQ3, that of crowdfunding having a limited market impact, there was unanimous consensus among the experts assembled via the Delphi Method that crowdfunding was not likely to have a significant market impact because of various limitations on the growth and prominence of this type of finding.

4.5 RQ4 Results

RQ4 was as follows: In the context of crowdfunding, what are potential regulatory gaps that could lead to systematic risk? RQ4 has been subdivided into two distinct sub-research questions. The presentation of RQ4 results has been subdivided accordingly. RQ4 was answered by means of the Delphi Method as described in Chapter 3 The following questions were posted in order to elicit data for RQ4:

1. Please discuss regulatory gaps that you believe to exist in the current environment of crowdfunding, both in a German and a global context.

2. Do you believe that regulatory gaps that might exist in the current environment of crowdfunding, both in a German and a global context, will lead to some form of systematic risk? If so, please identify each risk and discuss the possible reasons for its existence.
3. How important is it to reduce regulatory gaps in the current environment of crowdfunding, both in Germany and globally? Why?
4. Which regulatory gaps are the most important? Why?
5. What are the costs of allowing current regulatory gaps to continue, both in Germany and globally?
6. What are the benefits of allowing current regulatory gaps to continue, both in Germany and globally?
7. Having seen what some of your colleagues think about crowdfunding, regulatory gaps, and systemic risk, have you changed your opinion(s)? Why or why not?
8. Please respond to any of your colleagues' claims or answers that you find interesting—whether because you agree or disagree with them.

The answers to RQ4 follow below, as part of the sub-research questions.

4.5.1 Sub-RQ4.1 Results

Sub-RQ 4.1 was as follows: In the context of crowdfunding, what is the relative importance of potential regulatory gaps that could lead to systematic risk? A number of themes emerged from the Sub-RQ 4.1 results. These themes have been discussed below, with each discussion containing representative quotes, an exploration of the theme itself, and notes on the agreement and disagreement with the theme across the sample of Delphi experts assembled for Sub-RQ 4.1.

4.5.1.1 Theme #1: Risk is well-managed.

The first theme to emerge from the data gathered for the Delphi Method as applied to RQ 4.1 was the theme of risk being well-managed by regulation. Of the 41 experts who contributed data for RQ 4.1, 11 were explicit in identifying the appropriate management of crowdfunding risk through regulation. None of the 41 experts who contributed data for RQ 4.1 were against this claim; thus, there were no discrepant data to be considered as part of the theme of risk being well-managed through regulation, and none of the 11 experts who supported this interpretation of the importance of

crowdfunding changed in their minds in the second wave of the Delphi analysis for RQ 4.1.

There were several rich responses to this theme. Participant #11, for example, had the following to contribute:

Now, I don't know about any Wild West environments out there. There could be countries with no crowdfunding regulations whatsoever, so I want to make it clear that my comments are delimited to the environments and climates with which I'm most familiar. Now, in Germany, we see that the regulatory gaps have been closed over the past several years. The greatest danger used to be that, when the gaps were indeed present, a company seeking to benefit from crowdfunding might have been able to solicit investment without making the right information, in the sufficient quantities, available to prospective investors. We're not seeing that any longer. Even through there are still exceptions in which a whole prospectus doesn't have to be issued, I don't consider that a major regulatory gap for Germany, and certainly not one that's going to promote systemic risk. I mean, there are many crowdfunding investor safeguards in place regardless of the size of the company soliciting funds and other underlying factors. Bear in mind that investment is an inherently risk activity, so what I'm concerned with is examining the question of whether, in Germany in particular, the risks associated with regulatory gaps in crowdfunding are greater than ordinary investment risks. Based on my knowledge, I would argue that the risks of crowdfunding are essentially the same risks, both in quality and magnitude, that occur elsewhere in the German investment environment. That is why I would argue that, while there are probably remaining regulatory gaps in Germany, these gaps aren't that important, and they're not likely to be the basis for systemic risk. Also, remember that over-regulation as a means of reducing gaps is going to chill investment, and no one wants that outcome either. I think Germany has struck the right balance between demanding transparency and thoroughness from the companies seeking crowdfunding and the need to enliven the marketplace by allowing these kinds of investments to take place. Al of that are well covered by the newest 2017 amendment of the KWG (Kredit risk Law Germany).

The sentiments expressed by Participant #11 were echoed by 10 other participants in the Delphi survey. However, Participant #11's response was the longest and most explanatorily powerful, so it has been excerpted in detail.

In terms of the first theme associated with RQ 4.1, that of risk being well-managed, the participants, each addressing themselves to the investment environment with which they were the most familiar, argued that, in Germany and other countries, crowdfunding was regulated in a manner since 2017 that continued to encourage investment while also providing necessary protections for investors and thereby managing risk in an appropriate manner

4.5.1.2 Theme #2: Gaps exist, but are unlikely to be important.

The second theme to emerge from the data gathered for the Delphi Method as applied to RQ 4.1 was the theme of risk existing, but not being of importance as understood from the perspective of systemic risk. Of the 41 experts who contributed data for RQ 4.1, 12 were explicit in acknowledging risks associated with crowdfunding but arguing that these risks did not collectively represent a systemic risk. None of the 41 experts who contributed data for RQ 4.1 were against this claim; thus, there were no discrepant data to be considered as part of the theme of existing risk not rising to the level of systemic risk, and none of the 12 experts who supported this interpretation of the importance of crowdfunding changed in their minds in the second wave of the Delphi analysis for RQ 4.1.

There were several rich responses to this theme. Participant #30, for example, had the following to contribute:

I'm not necessarily sanguine about the regulatory environment. Outside Europe and North America, there are big gaps, and, even within these two geographies, there are going to be local gaps, difficulties in interpretation, and other real problems. Rather than dwell on the exact nature of these gaps, though, I'd like to dwell on another point, which is that the risks don't really add up to what you're calling systemic risk. Given how small the volume of crowdfunding is to be, even major gaps in regulation are hardly going to create systemic risk. Is there a place for unscrupulous companies to take advantage of under informed investors? Certainly, but on one hand not at a volume sufficient to threaten the marketplace and on the other hand not in any manner that doesn't already exist outside crowdfunding. Many big companies with shiny prospectuses end up bilking investors.

The sentiments expressed by Participant #30 were echoed by 11 other participants in the Delphi survey. However, Participant #40's response was the longest and most explanatorily powerful, so it has been excerpted in detail.

In terms of the first theme associated with RQ 4.1, that of existing risk not rising to the level of systemic risk, the participants cited both the limited volume of crowdfunding and the existence of larger risks in other domains of the investment climate in order to make the argument that regulatory gaps in crowdfunding did not constitute, and were unlikely to constitute, systemic risk.

4.5.2 Sub-RQ4.2 Results

Sub-RQ 4.2 was as follows: In the context of crowdfunding, what are the costs and benefits of closing potential regulatory gaps that could lead to systematic risk? A number of themes emerged from the Sub-RQ 4.2 results. These themes have been discussed below, with each discussion containing representative quotes, an exploration of the theme itself, and notes on the agreement and disagreement with the theme across the sample of Delphi experts assembled for Sub-RQ 4.2.

4.5.2.1 Theme #1: Encouraging investment vs. protecting investors

The only theme to emerge from the data gathered for the Delphi Method as applied to RQ 4.2 was the theme of the costs and benefits of crowdfunding as being understandable through the prism of encouraging investment vs. protecting investors.

A major cost of strengthening the regulatory climate is going to be dampening investment. That's the fulcrum on which this cost-benefit issue turns, in fact. If the regulatory authority goes too far in demanding not just prospectuses but other material from SMEs, particularly on the smaller end, looking for access to the crowdfunding market, then the problem that could arise is that these companies—many of which really are likely to make contributions to the economy, especially in this new-economy climate—are not going to get access to some quantum of their needed funds. The same problem affects investors, but from the other side. By now, most investors are aware of how, in the current technological and economic climate, tech companies in particular come out of people's garages and become these huge companies. What if you want access to that and your name isn't Peter Thiel? Crowdfunding is the right alternative to you, but, if the kind of companies you want to invest in are buried under

heavy regulations, then you won't have access to the companies. We'll all lose, because maybe the next Apple or Google will fail to launch. I know it's a far-fetched scenario, but the point is that we need an environment in which not just the VCs and big movers and shakers can have early-stage access to great companies and great ideas. Once you can open up this landscape to ordinary investors, everyone will benefit. Now, on the other side of that is the issue that, if there aren't regulations, or if the regulations are too weak, you've created a bad environment, once that unscrupulous companies and individuals can take advantage of. Therefore, the cost-benefit issue really comes down to staking out a place somewhere midway between the need to facilitate an open investment climate and the need to protect investors. I can't say exactly where that line is; I suspect we'll have to find it through trial and error.

Participant #55 addressed the topic of costs and benefits related to the closing of regulatory gaps related to crowdfunding in the following manner:

A good way to dive into this topic is to ask why crowdfunding exists. Obviously, there's a need for investment that falls below the radar of traditional investment, where you have a prospectus and well-heeled investors being wooed by a large company. In fact, we know that there's a need for this kind of investment, because angel investors and an early-stage funding climate already exists. Now, when we look at the VC community, I think there's a possibility that they don't necessarily represent the market as a whole. Remember, VCs have their own specific tastes and preferences. What's powerful about crowdfunding is that, by taking your case to the market as an SME, you're in a position to tap into the broader tastes and preferences of the market. It would be self-defeating to clap very tight regulations on SMEs seeking to crowdfund, because, after all, companies that are able and willing to rise to that threshold are going to choose traditional funding. It could also be the case that SMEs are using crowdfunding just as a complement to their other investing channels, in which case the informed crowdfunder has an opportunity to due diligence. The point is that crowdfunding isn't meant to exist outside regulatory constraints, but, shall we say, *below* them. An SME seeking crowdfunding shouldn't be asked to meet the regulatory burden that exists in other funding channels—whether as driven by government regulations, VC requirements, or whatever. There should be a space for companies and investors to come together in a grassroots manner, with the minimal necessary regulatory burden, and let crowdfunding happen. I'm a believer in keeping a regulatory burden on crowdfunding, but just enough of one to let this exciting channel achieve its

potential. The cost of increasing the regulatory burden is the cost of shutting down crowdfunding altogether.

In terms of the only theme associated with RQ 4.2, that of costs and benefits of crowdfunding as being understandable through the prism of encouraging investment vs. protecting investors, the consensus appeared to be for the regulatory burden on crowdfunding to be reduced to the optimal point necessary to stimulate investment while protecting investors; however, participants did not specify where this optimal point might be. In Chapter 5, potential means of identifying an optimal point of regulation between market stimulation and investor protection in future studies have been discussed.

4.6 Summary and Conclusion

The purpose of Chapter 4 was to present the results of the study. The results were presented in order of the research questions of the study. The main results of the study were as follows.

As part of RQ1, it was found that technology companies are more reliant on crowdfunding, as a percentage of all funding, than are non-technology companies. There was a statistically significant difference between technology SMEs' reliance on crowdfunding as a percentage of all funding (6.41%. SD = 4.30) and nontechnology SMEs' reliance on crowdfunding as a percentage of all funding (3.20%. SD = 1.46), $t(998) = 17.575$, $p < .001$. Technology companies had a higher reliance on crowdfunding as a percentage of all funding than did non-technology companies. However, because the variable of reliance on crowdfunding as a percentage of all funding was distributed abnormally (Shapiro-Wilk $W = 0.460$, $p < .001$), it was necessary to triangulate the parametric independent samples t-test with the non-parametric Wilcoxon-Mann-Whitney U test. The Wilcoxon-Mann-Whitney U test confirmed that mean reliance on crowdfunding as a percentage of all funding was higher for technology companies than for non-technology companies, $z = 21.488$, $p < .001$.

As part of RQ2, several weak and negative correlations between crowdfunding and other kinds of finding, both across the entire sample and in specific years. Only

aggregate results (that is, results for all years combined) have been reported in the conclusion. The regression of crowdfunding on seed funding was statistically significant, $F(1, 998) = 33.440$, $p < .001$.

The first theme to emerge from the data gathered for the Delphi Method as applied to RQ3 was the theme of crowdfunding being a niche. In terms of the first theme associated with RQ3, that of crowdfunding being a niche strategy, there was unanimous consensus among the experts assembled via the Delphi Method that crowdfunding was not yet equal to traditional funding sources in terms of its importance.

The second theme to emerge from the data gathered for the Delphi Method as applied to RQ3 was the theme of the limited future of crowdfunding. In terms of the second theme associated with RQ3, that of crowdfunding having a limited future, there was unanimous consensus among the experts assembled via the Delphi Method that crowdfunding was not likely to become equal to traditional funding sources in terms of its importance.

The third theme to emerge from the data gathered for the Delphi Method as applied to RQ3 was the theme of the crowdfunding having a limited impact on the market. This theme was the third and final theme for RQ3 in that it built directly on the first and second themes. In terms of the third theme associated with RQ3, that of crowdfunding having a limited market impact, there was unanimous consensus among the experts assembled via the Delphi Method that crowdfunding was not likely to have a significant market impact because of various limitations on the growth and prominence of this type of finding.

The first theme to emerge from the data gathered for the Delphi Method as applied to RQ 4.1 was the theme of risk being well-managed by regulation. In terms of the first theme associated with RQ 4.1, that of risk being well-managed, the participants, each addressing themselves to the investment environment with which they were the most familiar, argued that, in Germany and other countries, crowdfunding was regulated in a manner that continued to encourage investment while also providing necessary protections for investors and thereby managing risk in an appropriate manner.

The second theme to emerge from the data gathered for the Delphi Method as applied to RQ 4.1 was the theme of risk existing, but not being of importance as understood from the perspective of systemic risk. In terms of the first theme associated with RQ 4.2, that of existing risk not rising to the level of systemic risk, the participants cited both the limited volume of crowdfunding and the existence of larger risks in other domains of the investment climate in order to make the argument that regulatory gaps in crowdfunding did not constitute, and were unlikely to constitute, systemic risk.

The only theme to emerge from the data gathered for the Delphi Method as applied to RQ 4.2 was the theme of the costs and benefits of crowdfunding as being understandable through the prism of encouraging investment vs. protecting investors. In terms of the only theme associated with RQ 4.2, that of costs and benefits of crowdfunding as being understandable through the prism of encouraging investment vs. protecting investors, the consensus appeared to be for the regulatory burden on crowdfunding to be reduced to the optimal point necessary to stimulate investment while protecting investors; however, participants did not specify where this optimal point might be.

Chapter 5 contains a full discussion of the meaning of the RQ4 findings, their relation to theory and past empirical findings, and their implication for future studies and for practice.

4.6.1 Transition

The purpose of Chapter 4 was to present the findings of the study. The findings were presented in order of the four research questions of the study (and their associated sub-research questions): (1) What is the percentage of crowdfunding in the overall funding of SMEs? (2) Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on other—that is, traditional—forms of financing? (3) What is the potential impact on the traditional financing market of a shift in SME financing demand from financial institutions to crowdfunding platforms? (4) In the context of crowdfunding, what are potential regulatory gaps that could lead to systematic risk? Both the quantitative and qualitative findings associated with these research questions were presented. In Chapter 5, the findings presented in Chapter 4

will be discussed with reference to both theories and existing empirical knowledge, acknowledged in terms of their limitations, utilized as a basis from which to make recommendations for future academic study, and utilized as a basis from which to make recommendations for practice and policy related to crowdfunding. In addition, possible ways of expanding the findings and making new contributions to knowledge about crowdfunding in both Germany and globally have been discussed in Chapter 5.

5 CHAPTER DISCUSSION

5.1 Meaning of the Findings

The purpose of this section of Chapter 5 is to discuss the meaning of the findings. As there are several findings in the study, the meaning of each finding has been discussed separately. The meaning of the findings prevents a basis on which to discuss the findings.

5.2 Meaning of the Findings

The purpose of this section of Chapter 5 is to discuss the meaning of the findings. As there are several findings in the study, the meaning of each finding has been discussed separately. The meaning of the findings prevents a basis on which to discuss the findings.

5.2.1 Meaning of RQ1 Findings

The first research question of the study was as follows: What is the percentage of crowdfunding in the overall funding of SMEs? The main finding for this research question was that there was a statistically significant difference between technology SMEs' reliance on crowdfunding as a percentage of all funding (6.41%. *SD* = 4.30) and nontechnology SMEs' reliance on crowdfunding as a percentage of all funding (3.20%. *SD* = 1.46), $t(998) = 17.575$, $p < .001$. The likely meaning of this finding is that technology companies are more reliant on crowdfunding, for reasons that have been discussed subsequently in this chapter.

5.2.2 Meaning of RQ2 Findings

The second research question of the study was as follows: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on other—that is, traditional—forms of financing? Although several regressions were conducted for this research question, the main finding was that there were several weak and negative correlations between crowdfunding and other kinds of finding. The likely meaning of this finding is that crowdfunding is actively replacing other kinds of funding; companies that have a larger portion of their funding from crowdfunding have a smaller portion of funding from other kinds of funding.

5.2.3 Meaning of RQ3 Findings

The third research question of the study was as follows: What is the potential impact on the traditional financing market of a shift in SME financing demand from financial institutions to crowdfunding platforms? The main findings for RQ3 were as follows: (a) Crowdfunding is a niche, (b) crowdfunding has a limited future, and (c) crowdfunding is having and will have a limited impact on the funding market. The integrated meaning of these findings is that the potential impact on the traditional financing market of a shift in SME financing demand from financial institutions to crowdfunding platforms is small.

5.2.4 Meaning of RQ4 Findings

The fourth research question of the study was as follows: In the context of crowdfunding, what are potential regulatory gaps that could lead to systematic risk? The main findings for RQ4 were as follows: (a) The risks of crowdfunding are well-managed by regulation, (b) the risk of crowdfunding is not important from the perspective of systemic risk, and (c) the costs and benefits of crowdfunding can be understood through the prism of encouraging investment vs. protecting investors. The integrated meaning of these findings is that there are in fact some regulatory gaps, but not gaps that are associated with high levels of risk.

5.3 Discussion of the Findings

The purpose of this section of Chapter 5 is to discuss the findings with reference to theory and past findings. As there are several findings in the study, each finding has been discussed separately. The discussion of findings encompasses theories that appear to possess explanatory power with respect to the specific findings of the study.

5.3.1 Discussion of RQ1 Findings

The first research question of the study was as follows: What is the percentage of crowdfunding in the overall funding of SMEs? The finding that a low percentage of all funding is crowdfunding can be explained through a path-dependency approach, meaning that existing financiers exert a form of power over the marketplace that is difficult for crowdfunding platforms to displace (G.L. Clark, 2007; Kourtidis, Šević, & Chatzoglou, 2011). Investors such as venture capitalists and angel investor have had much longer to develop and enforce institutional power (G.L. Clark, 2007; Kourtidis et al., 2011) in comparison to crowdfunding platforms.

However, the findings for RQ1 can be examined more critically. It is possible that a low percentage of crowdfunding as a source of overall funding indicates that crowdfunding is relatively unimportant as a funding strategy. However, it is also of note that crowdfunding was part of the funding strategy of every company in the sample, and also that crowdfunding might have increased in relative prominent over the past several years, so that SMEs that had no reliance on crowdfunding in the past have become open to this funding strategy in more recent times. Thus, the findings from RQ1 can be understood from more than one perspective, highlighting the importance of further research.

As noted in Chapter 2, the importance of crowdfunding to SMEs, quantified as a percentage of all funding, does not appear to have been discussed in the previous literature, which has focused instead on the conceptual importance of crowdfunding. For example, Cholakova and Clarysse (2015) and Mauritzen (2016) noted that crowdfunding was a means of exposing SMEs to more investors through the medium of the Internet, thus offering an alternative to traditional funding. Andersen and Mauritzen (2016) noted that crowdfunding is particularly important to SMEs because of the possibility of retaining equity. These kinds of observations are not directly related to any quantification of crowdfunding as a percentage of all funding, but they are directly relevant to RQ2 and have therefore been discussed in greater detail as part of the discussion of the second research question following below.

RQ1 closed an important gap in knowledge pertaining to the proportion of SME funding that can be traced to crowdfunding. While crowdfunding has been discussed in many previous studies, the literature search conducted for the current study failed to identify an previous quantifications of crowdfunding as a percentage of all funding for SMEs. Therefore, the results to RQ1 provide a novel measurement of the relative importance of crowdfunding for SMEs.

5.3.2 Discussion of RQ2 Findings

The second research question of the study was as follows: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on other—that is, traditional—forms of financing? The main finding for this research question is that there is a significant relationship between SMEs' reliance on

crowdfunding and SMEs' reliance on traditional forms of financing, such that companies that received crowdfunding were less likely to receive traditional funding. There are several possible reasons for this finding. Hollas noted that one of the possible reasons is that certain companies are ceasing to appreciate the trade-off between funding and equity in traditional approaches: "entrepreneurs have become warier of less-than-favourable terms in dealing with venture capital (VC) firms or even angel investment groups, being urged to concede a considerable amount of equity in exchange for funding" (Hollas, 2013, p. 27).

Hollas's (2013) findings can be discussed in theoretical terms related to game theory. Gilles (2010) offered a definition of two kinds of game theory, that is, cooperative and non-cooperative theory:

> The non-cooperative approach…assumes that each player in a game is driven by a well-formulated goal. This goal is formalized as the player's *payoff function*…Each player now optimizes her payoff by selecting actions that are under her control…non-cooperative game theory is the most pristine expression of the principle of *methodological individualism* that lies at the foundation of most of contemporary microeconomics. The second fundamental approach is known as *cooperative* game theory and allows players to write binding contracts. This changes the analysis and interpretation of a game radically. Indeed, if binding agreements can be written, all players collectively will pursue the maximization of the total wealth that can be generated within the social decision situation at hand. A binding contract then determines how this generated wealth is distributed among the various players in this interaction decision situation. (Gilles, 2010, p. 5).

It is possible that the positioning of VCs, angel investors, and traditional sources of investment in the funding marketplace can be understood as part of a non-cooperative approach, whereas crowdfunding can be understood as an example of cooperative game theory. For VCs, angel investors, and other agents in the traditional funding marketplace, investment is provided in exchange for equity—often, as Hollas (2013) argued, excessive equity. In crowdfunding, each individual contributor is too small to be able to demand equity in return for investment. Both crowdfunding participants and traditional funders are in search of a return on investment, but, because traditional

funders can obtain greater leverage through the larger amounts controlled by a smaller number of funding parties, they are able to demand equity. The demand for equity is, in the sense described by Gilles (2010), non-cooperative, because it is possible for equity to be cashed out without the company that has been invested in to remain solvent. For example, parties with equity can strip a company's intellectual property, sell it, and gut the company (Basich, 2014; Bernstein, Giroud, & Townsend, 2015; Cochrane, 2005).

On the other hand, someone who contributes to crowdfunding can only obtain a return on investment if the company in which he or she has invested is able to continue operating; the revenues and profits drawn by successful companies—not equity— are used to pay back crowdfunders, so both crowdfunders and the companies in which they invest want the same thing, *viz.*, the success of the company (Basich, 2014; Bernstein et al., 2015; Cochrane, 2005). It is therefore possible to describe the relationship between crowdfunders and the companies in which they invest as cooperative and the relationship between venture capitalists and the companies in which they invest as noncooperative. Even if venture capitalists, angels, and other providers of traditional funding are not interested in stripping a company of its intellectual property or other resources, the struggle for equity is still an example of what Gilles (2010) described as a non-cooperative game. In an ordinary situation, there is a limited amount of equity—100%--available in any company. Thus, the gain of *n*% equity by any party can only occur if *n*% equity is lost by another party. Gilles described this form of non-cooperative game theory as being a zero-sum game, that is, a game in which the gain of one party necessarily comes at the cost of another party.

The relationship between companies and the crowdfunders that invest in it cannot be described as zero-sum, because there is no equity involved. Rather, the rewards scale to both parties. If a crowdfunder's investment is deemed worthy of *n*% of net profits, then, the more that a company profits, the more money is obtained both by:

a. crowdfunders
b. the company itself.

Thus, crowd funders and the companies in which they invest can be described as participating in a cooperative relationship that is built on scaling benefits to both parties,

whereas the relationship between traditional funders and the companies in which they invest can be described as non-cooperative.

This distinction between crowdfunding and other kinds of funding can help to explain the main finding for RQ2, which is the existence of negative correlations between crowdfunding and other kinds of funding. If the discussion of cooperative and non-cooperative theory provided above is accurate, then it would be in the best economic interest of a company to maximize the proportion of money that can be raised by crowdfunding, because, in doing so, a company would be less obliged to trade equity for funding (as would be the case given the involvement of venture capitalists, angels, and other traditional investors).

The results of RQ2, like the results of RQ2, cannot be directly discussed in terms of past empirical findings, as both RQ1 and RQ2 gathered novel data. No previous researchers appear to have either (a) quantified the total proportion of funding obtained from crowdfunding or (b) quantified the correlation between crowdfunding and traditional funding. RQ3, being an attempt to explain the findings obtained in RQ2, is more amenable to discussion with reference to past studies and theories.

RQ2 closed a gap in literature related to the dynamics of the crowdfunding-traditional funding trade-off. As noted in detail in Chapter 2, there are good theoretical reasons to believe that companies reliant on crowdfunding will reduce their reliance on traditional funding, as doing so will allow companies to retain more of their equity. However, there do not appear to have been previous empirical validations of this theoretical prediction. RQ2 closed this gap not only with respect to all funding but with respect to five different rounds or kinds of funding, indicating that the trade-off between crowdfunding and traditional funding is pervasive and not limited to another particular round of funding.

5.3.3 Discussion of RQ3 Findings

The third research question of the study was as follows: What is the potential impact on the traditional financing market of a shift in SME financing demand from financial institutions to crowdfunding platforms? The main findings for RQ3 were as follows:

a. Crowdfunding is a niche,
b. crowdfunding has a limited future, and

c. crowdfunding is having and will have a limited impact on the funding market.

The integrated meaning of these findings is that the potential impact on the traditional financing market of a shift in SME financing demand from financial institutions to crowdfunding platforms is small.

This finding can also be discussed in terms of game theory. As Gilles (2010) has argued, and on the basis of the mathematical theorems presented by Von Neumann and Morgenstern (Von Neumann & Morgenstern, 2007), the responses of competitive parties in game theory will depend on:

a. what each party possesses,
b. what each party has to gain, and
c. what each party has to lose.

In the context of RQ1, it was discovered that crowdfunding currently constitutes a small percentage of total funding for companies in Germany. There is no evidence of a tipping in the marketplace resulting in the superiority of crowdfunding as a source of funding; rather, crowdfunding represents a very limited percentage of funding. One interpretation of this finding is that traditional funders are simply not threatened by crowdfunding in a manner that would result in traditional funders making concessions to the companies they invest in.

In game theory terms, a true tipping of the marketplace in favour of crowdfunding would represent a sufficient threat to potential funders that could result in a recalculation of the amount of equity demanded per investment dollar. In the absence of such tipping, there is no game-theoretic incentive for providers of traditional funding to demand lesser amounts of equity in exchange for funding, which would be an economically rational response to the threat of crowdfunding. Therefore, the current non-responsiveness of traditional funders to crowdfunding's position in the marketplace is economically rational.

The consensus among the experts surveyed for RQ3 appeared to be that, while exerting a downward influence on the proportion of traditional funding obtained by SMEs, crowdfunding is limited. This finding can be understood in light of the nature of the overall investment system. Large investors (be they individuals or institutions) have

certain built-in advantages in terms of access to investment outlets, and this access can be understood in terms of both regulation and open markets. Gilles (2010) noted that, in open markets, participants will have the opportunity to control or constrain the behaviour of partners based on the principle of competition; investors can, for example, direct their funding to companies that exchange equity for investment, creating pressures on companies that seek investment without equity. To the extent that the interests of large investors are also represented by the regulatory state, the traditional investment system is likely to predominate over crowdfunding because of the various mechanisms that exist to facilitate and encourage traditional investment, versus the existence of a relatively immature regulatory system to facilitate and encourage crowdfunding (Dushnitsky et al., 2016).

Data analysis for RQ3 offers an opportunity to more closely link quantitative and qualitative findings, because RQ3 was a qualitative exploration of a relation that was quantitatively analysed as part of RQ2. Specifically, the data analysis accompanying RQ2 found that there a negative correlation between (a) crowdfunding as a percentage of all funding and (b) traditional funding as a percentage of all funding, and the qualitative analyses for RQ3 indicated that this trade-off is likely to be limited in scope because of the intrinsic limits to crowdfunding. Thus, the answers to RQ3 indicated that the trade-off between crowdfunding and traditional funding, while significant and genuine, is not likely to grow much further, and the analyses for RQ3 also indicated that the implications of the negative correlation between crowdfunding as a percentage of all funding and traditional funding as a percentage of all funding were also likely to be limited.

RQ3 did not contribute to knowledge in the same manner as RQs 1 and 2, which contributed novel and basic data. RQ3 can be considered more in the light of a synthesis of knowledge

5.3.4 Discussion of RQ4 Findings

The fourth research question of the study was as follows: In the context of crowdfunding, what are potential regulatory gaps that could lead to systematic risk? The main findings for RQ4 were as follows:

a. The risks of crowdfunding are well-managed by regulation,

b. the risk of crowdfunding is not important from the perspective of systemic risk, and
c. the costs and benefits of crowdfunding can be understood through the prism of encouraging investment vs. protecting investors.

The integrated meaning of these findings is that there are in fact some regulatory gaps, but not gaps that are associated with high levels of risk.

One means of discussing the RQ4 findings is from the perspective of de-risking, which has been defined as "a general phenomenon in which an organization seeks to limit its exposure to risk by ceasing activities in a wholesale rather than case-by-case fashion" (Ramachandran, Collin, & Juden, 2008, p. 238). If crowdfunding became subject to higher levels of regulatory control and scrutiny, there might be added risks to companies that attempt to raise money through crowdfunding, and one possible response to this added risk could be the abandonment of crowdfunding as a funding strategy.

One current regulatory gap in crowdfunding involves the tracking of money. Because crowdfunding connects many individuals to companies through investment, there is a possibility that crowdfunding could become an avenue for money laundering, insofar as unregulated individuals could transfer their illegitimately gotten funds into crowdfunding platforms. One means of closing this regulatory gap could be through the use of blockchain:

> There have also been attempts by industry to reduce de-risking by reducing the costs of compliance. These range from low-tech process fixes such as better messaging standards and the more rapid adoption of the Legal Entity Identifier scheme through to high-tech so-called FinTech [financial technology] solutions. There is some hope that the leveraging of technological solutions, especially those built on blockchain technology might reduce costs to the point at which nuanced, case-by-case analysis of individual clients based on rich datasets is affordable. (Ramachandran et al., 2008, p. 258).

Blockchain has been described as a means of keeping accurate and minute track of the relationships between individuals and hubs—such as, for example, companies that are seeking to attract investment through crowdfunding. As the National Institute of Standards and Technology (NIST) in the United States has noted,

> Blockchains are immutable digital ledger systems implemented in a distributed fashion (i.e., without a central repository) and usually without a central authority. At their most basic level, they enable a community of users to record transactions in a ledger that is public to that community, such that no transaction can be changed once published. In 2008, the blockchain idea was combined in an innovative way with several other technologies and computing concepts to enable the creation of modern cryptocurrencies: electronic money protected through cryptographic mechanisms instead of a central repository….Each participant can keep a full record of all transactions, making the network resilient to attempts to alter that record (or forge transactions) later. (NIST, 2018, p. 1). The use of blockchain, while not discussed by the Delphi experts in the context of this study, could be a means of closing current regulatory gaps in blockchain.

One of the themes raised by the Delphi experts in the context of RQ4 was that of financial inclusion. Financial inclusion refers to the ability of a financial system to include as many people as possible (Chibba, 2009; Soederberg, 2013). In the practice of investment, financial inclusion refers to the ability of as many individuals as possible to invest in a company (Chibba, 2009; Soederberg, 2013). Crowdfunding promotes financial inclusion insofar as it is relatively easy and cheap for the majority of individuals to join and contribute to a crowdfunding platform; often, investments as low as $1 can be made (Hollas, 2013), and crowdfunding platforms can be accessed from a variety of devices. To the extent that regulatory pressure on crowdfunding is increased, financial inclusion could be threatened, because (a) many investors might choose not to participate in crowdfunding if they have to meet higher thresholds for participation and (b) many companies might cease to solicit funds through crowdfunding because of the fear that doing so could cause them to violate anti-money laundering or counter-terrorism policies (Hollas, 2013). Thus, the themes discussed in RQ4 can be understood through the perspective of both financial inclusion and de-risking.

RQ4, like RQ3, can be considered in terms of the quantitative findings of the study, that is, the findings for RQs 1 and 2. In terms of RQ1, which sought to measure the reliance on crowdfunding, the answers to RQ4 suggest that the relatively percentage of all funding that is obtained through crowdfunding does not reflect the influence of higher risk to investors; rather, when combined with the insights from RQ3, the answers

to RQ4 indicate that the currently measured reliance on crowdfunding does not represent risk to investors, but rather the intrinsic limits on crowdfunding that were identified as part of the analysis of RQ3. In terms of RQ2, which measured the trade-off between reliance on crowdfunding and reliance on traditional funding among SMEs, the results of RQ4 indicated both that this trade-off is limited and that the reasons for its existence are not primarily based in risk considerations.

RQ4's contributions to knowledge were similar to the contributions made by RQ3. In neither case was entirely new knowledge contributed; however, in both cases, the insights of experts were synthesized into a single explanatory framework. Specifically, the findings for RQ4 suggested the likelihood that crowdfunding does not present significant risk problems, a finding echoed in the work of Hervé et al. (2016) but more detailed than previous findings in terms of rich descriptions of risk and regulation as relevant to SME crowdfunding.

6 CHAPTER CONCLUSION AND FURTHER RESEARCH DIRECTIONS

6.1 Introduction

Chapter 6 comprises the conclusion of the study. The chapter has been structured as follows. First, the limitations of the study have been acknowledged. Second, recommendations for practice have been made. Third, recommendations for future scholarship have been made. Fourth and finally, a summative conclusion of the study has been provided.

6.2 Limitations of the Findings

The purpose of this section of Chapter 6 is to acknowledge the limitations of the findings. As there are several findings in the study, each finding has been discussed separately in terms of its limitations.

6.2.1 Limitations of RQ1 Findings

The first research question of the study was as follows: What is the percentage of crowdfunding in the overall funding of SMEs? Because RQ1 was analysed through statistical means, the limitations of RQ1 can be evaluated in statistical terms.RQ1, RQ2, and RQ3 were all subject to the same general limitation of statistical findings, which, based in Roodman's (2007) discussion of Leamer's (1983) seminal critique of econometrics, is as follows:

> These studies differ not only in their conclusions but in their specifications as well…Although probably none of the choices are made on a whim; these differences appear to be examples of what Leamer called "whimsy." From Leamer's point of view the studies together represent a small sampling of specification space. And few include much robustness testing. Without further analysis, it is hard to know whether the results reveal solid underlying regularities in the data or are fragile artefacts of particular specification choices. (Roodman, 2007, p. 56).

It is possible that the importance of crowdfunding cannot be adequately understood through the operational terms utilized in this study. What Roodman referred to as the specification space of crowdfunding is likely to broader than capturable in a definition of crowdfunding as a percentage of total funding. In addition, the existence of no covariates others than industry in RQ1 constitutes a limitation, as it is possible that the

percentage of crowdfunding as a percentage of all funding is likely to depend on more factors than the industry to which a company belongs.

6.2.2 Limitations of RQ2 Findings

The second research question of the study was as follows: Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on other—that is, traditional—forms of financing? Because RQ2 was analysed through statistical means, the limitations of RQ2 can be evaluated in statistical terms. In particular, the limitations of the RQ2 findings can be understood in terms of statistical Power, a measure of the likelihood of correctly rejecting the null hypothesis. The lower the Power, the lower the reliability of any particular set of statistical findings; therefore, low Power is an important statistical limitation. For RQ2, a post hoc Power analysis was carried out for each of the regressions reported in Chapter 4, based on

a. the observed correlation,
b. the standard deviation of the residual, and
c. the standard deviation of the predictor (x) in each regression.

The regression of crowdfunding on seed funding on all years was statistically significant, $F(1, 998) = 33.440$, $p < .001$. The regression of crowdfunding on seed funding had an effect size of 0.032, indicating that roughly 3.2% of the variation in crowdfunding could be explained by variation in seed funding. The obtained statistical Power of this regression was 0.981; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on seed funding in 2008 was statistically significant, $F(1, 98) = 8.41$, $p = .0046$. The regression of crowdfunding on seed funding in 2008 had an effect size of 0.079, indicating that roughly 8% of the variation in crowdfunding in 2008 could be explained by variation in seed funding in 2008. The obtained statistical Power of this regression was 0.953; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on seed funding in 2009 was statistically insignificant, $F(1, 98) = 2.310$, $p = .1322$. The regression of crowdfunding on seed funding in 2009 had an effect size of 0.023, indicating that roughly 2.3% of the variation in crowdfunding

in 2009 could be explained by variation in seed funding in 2009. The obtained statistical Power of this regression was 0.948; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on seed funding in 2010 was statistically significant, $F(1, 98) = 8.46$, $p = .0045$. The regression of crowdfunding on seed funding in 2010 had an effect size of 0.080, indicating that roughly 8% of the variation in crowdfunding in 2010 could be explained by variation in seed funding in 2010. The obtained statistical Power of this regression was 0.940; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on seed funding in 2011 was statistically insignificant, $F(1, 98) = 1.860$, $p = .1783$. The regression of crowdfunding on seed funding in 2011 had an effect size of 0.008, indicating that roughly 0.8% of the variation in crowdfunding in 2011 could be explained by variation in seed funding in 2011. The obtained statistical Power of this regression was 0.934; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on seed funding in 2012 was statistically significant, $F(1, 98) = 25.830$, $p < .0001$. The regression of crowdfunding on seed funding in 2012 had an effect size of 0.208, indicating that roughly 21% of the variation in crowdfunding in 2012 could be explained by variation in seed funding in 2012. The obtained statistical Power of this regression was 0.983; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on seed funding in 2013 was statistically significant, $F(1, 98) = 17.400$, $p = .0001$. The regression of crowdfunding on seed funding in 2013 had an effect size of 0.150, indicating that roughly 15% of the variation in crowdfunding in 2013 could be explained by variation in seed funding in 2013. The obtained statistical Power of this regression was 0.953; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on seed funding in 2014 was statistically insignificant, $F(1, 98) = 0.930$, $p = .3369$. The regression of crowdfunding on seed funding in 2014

had an effect size of 0.009, indicating that roughly a tenth of a percent of the variation in crowdfunding in 2014 could be explained by variation in seed funding in 2014. The obtained statistical Power of this regression was 0.936; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on seed funding in 2015 was statistically significant, $F(1, 98) = 10.420$, $p = .0017$. The regression of crowdfunding on seed funding in 2015 had an effect size of 0.0961, indicating that roughly 9.6% of the variation in crowdfunding in 2015 could be explained by variation in seed funding in 2015. The obtained statistical Power of this regression was 0.951; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on seed funding in 2016 was statistically significant, $F(1, 98) = 0.260$, $p = .6119$. The regression of crowdfunding on seed funding in 2016 had an effect size of 0.026, indicating that roughly 2.6% of the variation in crowdfunding in 2016 could be explained by variation in seed funding in 2016. The obtained statistical Power of this regression was 0.965; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on seed funding in 2017 was statistically significant, $F(1, 98) = 9.910$, $p = .0022$. The regression of crowdfunding on seed funding in 2017 had an effect size of 0.0918, indicating that roughly 9% of the variation in crowdfunding in 2017 could be explained by variation in seed funding in 2017. The obtained statistical Power of this regression was 0.984; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on start-up funding in all years was statistically insignificant, $F(1, 998) = 2.560$, $p = .1099$. The regression of crowdfunding on start-up funding had an effect size of 0.026, indicating that roughly 2.6% of the variation in crowdfunding could be explained by variation in start-up funding. The obtained statistical Power of this regression was 0.944; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on start-up funding in 2008 was statistically insignificant, F(1, 98) = 2.330, p = .1302. The regression of crowdfunding on start-up funding in 2008 had an effect size of 0.0232, indicating that roughly 2.3% of the variation in crowdfunding in 2008 could be explained by variation in start-up funding in 2008. The obtained statistical Power of this regression was 0.985; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on start-up funding in 2009 was statistically insignificant, F(1, 98) = 0.080, p = .7779. The regression of crowdfunding on start-up funding in 2009 had an effect size of 0.0008, indicating that very little of the variation in crowdfunding in 2009 could be explained by variation in start-up funding in 2009. The obtained statistical Power of this regression was 0.981; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on start-up funding in 2010 was statistically significant, F(1, 98) = 4.190, p = .0433. The regression of crowdfunding on start-up funding in 2010 had an effect size of 0.0410, indicating that roughly 4% of the variation in crowdfunding in 2010 could be explained by variation in start-up funding in 2010. The obtained statistical Power of this regression was 0.966; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on start-up funding in 2011 was statistically insignificant, F(1, 98) = 0.290, p = .5893. The regression of crowdfunding on start-up funding in 2011 had an effect size of 0.003, indicating that roughly 0.3% of the variation in crowdfunding in 2011 could be explained by variation in start-up funding in 2011. The obtained statistical Power of this regression was 0.954; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on start-up funding in 2012 was statistically significant, F(1, 98) = 4.450, p = .0374. The regression of crowdfunding on start-up funding in 2012 had an effect size of 0.0434, indicating that roughly 4.3% of the variation in

crowdfunding in 2012 could be explained by variation in start-up funding in 2012. The obtained statistical Power of this regression was 0.982; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on start-up funding in 2013 was statistically insignificant, $F(1, 98) = 1.310$, $p = .2552$. The regression of crowdfunding on start-up funding in 2013 had an effect size of 0.0132, indicating that roughly 1% of the variation in crowdfunding in 2013 could be explained by variation in start-up funding in 2013. The obtained statistical Power of this regression was 0.955; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on start-up funding in 2014 was statistically insignificant, $F(1, 98) = 0.100$, $p = .7569$. The regression of crowdfunding on start-up funding in 2014 had an effect size of 0.001, indicating that roughly a tenth of 1% of the variation in crowdfunding in 2014 could be explained by variation in start-up funding in 2014. The obtained statistical Power of this regression was 0.981; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on start-up funding in 2015 was statistically insignificant, $F(1, 98) = 1.120$, $p = .2935$. The regression of crowdfunding on start-up funding in 2015 had an effect size of 0.011, indicating that roughly 1% of the variation in crowdfunding in 2015 could be explained by variation in start-up funding in 2015. The obtained statistical Power of this regression was 0.939; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on start-up funding in 2016 was statistically insignificant, $F(1, 98) = 0.130$, $p = .7146$. The regression of crowdfunding on start-up funding in 2016 had an effect size of 0.001, indicating that roughly a tenth of 1% of the variation in crowdfunding in 2016 could be explained by variation in start-up funding in 2016. The obtained statistical Power of this regression was 0.977; therefore, statistical

power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on start-up funding in 2017 was statistically insignificant, F(1, 98) = 0.110, p = .7442. The regression of crowdfunding on start-up funding in 2017 had an effect size of 0.001, indicating that roughly a tenth of 1% of the variation in crowdfunding in 2017 could be explained by variation in start-up funding in 2017. The obtained statistical Power of this regression was 0.981; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 1 funding in all years was statistically significant, F(1, 998) = 9.630, p = .0020. The regression of crowdfunding on Round 1 funding had an effect size of 0.010, indicating that roughly 1% of the variation in crowdfunding could be explained by variation in Round 1 funding. The obtained statistical Power of this regression was 0.973; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 1 funding in 2008 was statistically significant, F(1, 98) = 7.750, p = .0064. The regression of crowdfunding on Round 1 funding in 2008 had an effect size of 0.073, indicating that roughly 7.3% of the variation in crowdfunding in 2008 could be explained by variation in Round 1 funding in 2008. The obtained statistical Power of this regression was 0.973; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 1 funding in 2009 was statistically insignificant, F(1, 98) = 0.200, p = .6518. The regression of crowdfunding on Round 1 funding in 2009 had an effect size of 0.002, indicating that roughly a fifth of 1% of the variation in crowdfunding in 2009 could be explained by variation in Round 1 funding in 2009. The obtained statistical Power of this regression was 0.987; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 1 funding in 2010 was statistically significant, F(1, 98) = 9.390, p = .0028. The regression of crowdfunding on Round 1 funding in 2010 had an effect size of 0.087, indicating that roughly 8.7% of the variation in crowdfunding in 2010 could be explained by variation in Round 1 funding in 2010. The obtained statistical Power of this regression was 0.959; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 1 funding in 2011 was statistically insignificant, F(1, 98) = 0.010, p = .9185. The regression of crowdfunding on Round 1 funding in 2011 had an effect size of 0.0001, indicating that very little the variation in crowdfunding in 2011 could be explained by variation in Round 1 funding in 2011. The obtained statistical Power of this regression was 0.936; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 1 funding in 2012 was statistically insignificant, F(1, 98) = 1.450, p = .2312. The regression of crowdfunding on Round 1 funding in 2012 had an effect size of 0.014, indicating that roughly 1.4% of the variation in crowdfunding in 2012 could be explained by variation in Round 1 funding in 2012. The obtained statistical Power of this regression was 0.952; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 1 funding in 2013 was statistically significant, F(1, 98) = 4.030, p = .0476. The regression of crowdfunding on Round 1 funding in 2013 had an effect size of 0.039, indicating that roughly 3.9% of the variation in crowdfunding in 2013 could be explained by variation in Round 1 funding in 2013. The obtained statistical Power of this regression was 0.990; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 1 funding in 2014 was statistically insignificant, F(1, 98) = 3.920, p = .0504. The regression of crowdfunding on Round 1 funding in 2014 had an effect size of 0.038, indicating that roughly 3.8% of the variation

in crowdfunding in 2014 could be explained by variation in Round 1 funding in 2014. The obtained statistical Power of this regression was 0.975; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 1 funding in 2015 was statistically insignificant, $F(1, 98) = 1.230$, $p = .2695$. The regression of crowdfunding on Round 1 funding in 2015 had an effect size of 0.012, indicating that roughly 1.2% of the variation in crowdfunding in 2015 could be explained by variation in Round 1 funding in 2015. The obtained statistical Power of this regression was 0.935; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 1 funding in 2016 was statistically insignificant, $F(1, 98) = 0.150$, $p = .7002$. The regression of crowdfunding on Round 1 funding in 2016 had an effect size of 0.001, indicating that roughly a tenth of 1% of the variation in crowdfunding in 2016 could be explained by variation in Round 1 funding in 2016. The obtained statistical Power of this regression was 0.976; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 1 funding in 2017 was statistically significant, $F(1, 98) = 6.800$, $p = .0106$. The regression of crowdfunding on Round 1 funding in 2017 had an effect size of 0.064, indicating that roughly 6.4% of the variation in crowdfunding in 2017 could be explained by variation in Round 1 funding in 2017. The obtained statistical Power of this regression was 0.961; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 2 funding in all years was statistically significant, $F(1, 998) = 4.040$, $p = .0446$. The regression of crowdfunding on Round 2 funding had an effect size of 0.004, indicating that roughly a half of 1% of the variation in crowdfunding could be explained by variation in Round 2 funding. The obtained

statistical Power of this regression was 0.974; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 2 funding in 2008 was statistically insignificant, $F(1, 98) = 1.990$, $p = .1612$. The regression of crowdfunding on Round 2 funding in 2008 had an effect size of 0.020, indicating that roughly 2% of the variation in crowdfunding in 2008 could be explained by variation in Round 2 funding in 2008. The obtained statistical Power of this regression was 0.983; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 2 funding in 2009 was statistically insignificant, $F(1, 98) < 0.001$, $p = .9675$. The regression of crowdfunding on Round 2 funding in 2009 had an effect size < .0001, indicating that very little of the variation in crowdfunding in 2009 could be explained by variation in Round 2 funding in 2009. The obtained statistical Power of this regression was 0.940; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 2 funding in 2010 was statistically insignificant, $F(1, 98) = 0.190$, $p = .6653$. The regression of crowdfunding on Round 2 funding in 2010 had an effect size of 0.002, indicating that roughly a fifth of 1% of the variation in crowdfunding in 2010 could be explained by variation in Round 2 funding in 2010. The obtained statistical Power of this regression was 0.961; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 2 funding in 2011 was statistically insignificant, $F(1, 98) = 0.340$, $p = .5631$. The regression of crowdfunding on Round 2 funding in 2011 had an effect size of 0.003, indicating that roughly a third of 1% of the variation in crowdfunding in 2011 could be explained by variation in Round 2 funding in 2011. The obtained statistical Power of this regression was 0.983; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 2 funding in 2012 was statistically significant, F(1, 98) = 1.570, p = .2131. The regression of crowdfunding on Round 2 funding in 2012 had an effect size of 0.016, indicating that roughly 1.6% of the variation in crowdfunding in 2012 could be explained by variation in Round 2 funding in 2012. The obtained statistical Power of this regression was 0.977; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 2 funding in 2013 was statistically significant, F(1, 98) = 7.370, p = .0078. The regression of crowdfunding on Round 2 funding in 2013 had an effect size of 0.070, indicating that roughly 7% of the variation in crowdfunding in 2013 could be explained by variation in Round 2 funding in 2013. The obtained statistical Power of this regression was 0.947; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 2 funding in 2014 was statistically insignificant, F(1, 98) = 0.400, p = .5285. The regression of crowdfunding on Round 2 funding in 2014 had an effect size of 0.004, indicating that roughly a half of 1% of the variation in crowdfunding in 2014 could be explained by variation in Round 2 funding in 2014. The obtained statistical Power of this regression was 0.942; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 2 funding in 2015 was statistically insignificant, F(1, 98) = 3.280, p = .0734. The regression of crowdfunding on Round 2 funding in 2015 had an effect size of 0.032, indicating that roughly 3.2% of the variation in crowdfunding in 2015 could be explained by variation in Round 2 funding in 2015. The obtained statistical Power of this regression was 0.976; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 2 funding in 2016 was statistically insignificant, F(1, 98) = 0.010, p = .9296. The regression of crowdfunding on Round 2

funding in 2016 had an effect size < 0.001, indicating that very little of the variation in crowdfunding in 2016 could be explained by variation in Round 2 funding in 2016. The obtained statistical Power of this regression was 0.990; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 2 funding in 2017 was statistically insignificant, $F(1, 98) = 0.380$, $p = .5377$. The regression of crowdfunding on Round 2 funding in 2017 had an effect size of 0.004, indicating that roughly a half of 1% of the variation in crowdfunding in 2017 could be explained by variation in Round 2 funding in 2017. The obtained statistical Power of this regression was 0.975; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 3 funding in all years was statistically significant, $F(1, 998) = 46.140$, $p < .0001$. The regression of crowdfunding on Round 3 funding had an effect size of 0.044, indicating that roughly 4.4% of the variation in crowdfunding could be explained by variation in Round 3 funding. The obtained statistical Power of this regression was 0.985; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 3 funding in 2008 was statistically significant, $F(1, 98) = 7.520$, $p = .0073$. The regression of crowdfunding on Round 3 funding in 2008 had an effect size of 0.071, indicating that roughly 7.1% of the variation in crowdfunding in 2008 could be explained by variation in Round 3 funding in 2008. The obtained statistical Power of this regression was 0.948; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 3 funding in 2009 was statistically insignificant, $F(1, 98) = 1.040$, $p = .3093$. The regression of crowdfunding on Round 3 funding in 2009 had an effect size of 0.010, indicating that roughly 1% of the variation in crowdfunding in 2009 could be explained by variation in Round 3 funding in 2009. The obtained statistical Power of this regression was 0.984; therefore, statistical power

was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 3 funding in 2010 was statistically significant, F(1, 98) = 8.850, p = .0037. The regression of crowdfunding on Round 3 funding in 2010 had an effect size of 0.082, indicating that roughly 8%.2 of the variation in crowdfunding in 2010 could be explained by variation in Round 3 funding in 2010. The obtained statistical Power of this regression was 0.976; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 3 funding in 2011 was statistically significant, F(1, 98) = 6.100, p = .015. The regression of crowdfunding on Round 3 funding in 2011 had an effect size of 0.058, indicating that roughly 5.8% of the variation in crowdfunding in 2011 could be explained by variation in Round 3 funding in 2011. The obtained statistical Power of this regression was 0.986; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 3 funding in 2012 was statistically significant, F(1, 98) = 9.960, p = .0021. The regression of crowdfunding on Round 3 funding in 2012 had an effect size of 0.092, indicating that roughly 9.2% of the variation in crowdfunding in 2012 could be explained by variation in Round 3 funding in 2012. The obtained statistical Power of this regression was 0.973; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 3 funding in 2013 was statistically significant, F(1, 98) = 14.410, p = .0003. The regression of crowdfunding on Round 3 funding in 2013 had an effect size of 0.128, indicating that roughly 13% of the variation in crowdfunding in 2013 could be explained by variation in Round 3 funding in 2013. The obtained statistical Power of this regression was 0.945; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 3 funding in 2014 was statistically insignificant, F(1, 98) = 1.800, p = .1832. The regression of crowdfunding on Round 3 funding in 2014 had an effect size of 0.079, indicating that roughly 8% of the variation in crowdfunding in 2014 could be explained by variation in Round 3 funding in 2014. The obtained statistical Power of this regression was 0.981; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 3 funding in 2015 was statistically significant, F(1, 98) = 8.540, p = .0043. The regression of crowdfunding on Round 3 funding in 2015 had an effect size of 0.080, indicating that roughly 8% of the variation in crowdfunding in 2015 could be explained by variation in Round 3 funding in 2015. The obtained statistical Power of this regression was 0.931; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 3 funding in 2016 was statistically significant, F(1, 98) = 6.130, p = .015. The regression of crowdfunding on Round 3 funding in 2016 had an effect size of 0.058, indicating that roughly 6% of the variation in crowdfunding in 2016 could be explained by variation in Round 3 funding in 2016. The obtained statistical Power of this regression was 0.953; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on Round 3 funding in 2017 was statistically significant, F(1, 98) = 12.440, p = .0006. The regression of crowdfunding on Round 3 funding in 2017 had an effect size of 0.113, indicating that roughly 11.3% of the variation in crowdfunding in 2017 could be explained by variation in Round 3 funding in 2017. The obtained statistical Power of this regression was 0.978; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on total funding in all years was statistically significant, $F(1, 998) = 48.360$, $p < .0001$. The regression of crowdfunding on total funding had an effect size of 0.046, indicating that roughly 4.6% of the variation in crowdfunding could be explained by variation in total funding. The obtained statistical Power of this regression was 0.966; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on total funding in 2008 was statistically significant, $F(1, 98) = 20.380$, $p < .0001$. The regression of crowdfunding on total funding in 2008 had an effect size of 0.172, indicating that roughly 17.2% of the variation in crowdfunding in 2008 could be explained by variation in total funding in 2008. The obtained statistical Power of this regression was 0.930; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on total funding in 2009 was statistically insignificant, $F(1, 98) = 0.980$, $p = .3241$. The regression of crowdfunding on total funding in 2009 had an effect size of 0.001, indicating that roughly a tenth of 1% of the variation in crowdfunding in 2009 could be explained by variation in total funding in 2009. The obtained statistical Power of this regression was 0.931; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on total funding in 2010 was statistically significant, $F(1, 98) = 25.570$, $p < .0001$. The regression of crowdfunding on total funding in 2010 had an effect size of 0.207, indicating that roughly 20.7% of the variation in crowdfunding in 2010 could be explained by variation in total funding in 2010. The obtained statistical Power of this regression was 0.941; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on total funding in 2011 was statistically insignificant, $F(1, 98) = 26601$, $p = .1064$. The regression of crowdfunding on total funding in 2011 had an effect size of 0.026, indicating that roughly 2.6% of the variation in crowdfunding in 2011 could be explained by variation in total funding in 2011. The obtained statistical Power of this regression was 0.956; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on total funding in 2012 was statistically significant, $F(1, 98) = 19.740$, $p < .0001$. The regression of crowdfunding on total funding in 2012 had an effect size of 0.167, indicating that roughly 16.7% of the variation in crowdfunding in 2012 could be explained by variation in total funding in 2012. The obtained statistical Power of this regression was 0.970; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on total funding in 2013 was statistically significant, $F(1, 98) = 25.210$, $p < .0001$. The regression of crowdfunding on total funding in 2013 had an effect size of 0.204, indicating that roughly 20.4% of the variation in crowdfunding in 2013 could be explained by variation in total funding in 2013. The obtained statistical Power of this regression was 0.980; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on total funding in 2014 was statistically insignificant, $F(1, 98) = 2.660$, $p = .0046$. The regression of crowdfunding on total funding in 2014 had an effect size of 0.026, indicating that roughly 2.6% of the variation in crowdfunding in 2014 could be explained by variation in total funding in 2014. The obtained statistical Power of this regression was 0.985; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on total funding in 2015 was statistically significant, $F(1, 98) = 13.180$, $p = .0005$. The regression of crowdfunding on total funding in 2015 had an effect size of 0.118, indicating that roughly 12% of the variation in crowdfunding in 2015 could be explained by variation in total funding in 2015. The obtained statistical Power of this regression was 0.989; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on total funding in 2016 was statistically insignificant, $F(1, 98) = 0.260$, $p = .06098$. The regression of crowdfunding on total funding in 2016 had an effect size of 0.003, indicating that roughly a third of 1% of the variation in crowdfunding in 2016 could be explained by variation in total funding in 2016. The

obtained statistical Power of this regression was 0.983; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

The regression of crowdfunding on total funding in 2017 was statistically significant, $F(1, 98) = 12.810$, $p = .0005$. The regression of crowdfunding on total funding in 2017 had an effect size of 0.116, indicating that roughly 11.6% of the variation in crowdfunding in 2017 could be explained by variation in total funding in 2017. The obtained statistical Power of this regression was 0.976; therefore, statistical power was not a limitation of this regression, even though the regression had a low effect size.

6.2.3 Limitations of RQ3 Findings

The third research question of the study was as follows: What is the potential impact on the traditional financing market of a shift in SME financing demand from financial institutions to crowdfunding platforms? Because RQ3 was analysed through statistical means (in addition to qualitative means), the limitations of RQ3 can be evaluated in statistical terms. In qualitative terms, RQ3 was limited by the positioning of the Delphi experts in the study. Of the 46 experts who contributed data for RQ3, only four experts were associated with crowdfunding platforms, whereas 26 experts were associated with traditional funding (whether in terms of consulting, academic specialization, or actual investment practice). Therefore, the results for RQ3—, which emphasized the low impact of crowdfunding on SME financing demand—might over-represent the views of a large majority of Delphi experts who were institutionally skeptical of the impact of crowdfunding on SME demand for financing.

6.2.4 Limitations of RQ4 Findings

The fourth research question of the study was as follows: In the context of crowdfunding, what are potential regulatory gaps that could lead to systematic risk? Because RQ4 was analysed through qualitative means, the limitations of RQ4 also have to be discussed in qualitative terms. RQ4 was limited by the positioning of the Delphi experts in the study. Of the 41 experts who contributed data for RQ4, only four experts were associated with crowdfunding platforms, whereas 27 experts were associated with traditional funding (whether in terms of consulting, academic specialization, or actual investment practice). Therefore, the results for RQ4—, which emphasized low risks of regulatory gaps—might over-represent the views of a large

majority of Delphi experts who were not deeply vested in either the details or the trajectory of regulation for crowdfunding.

6.3 Recommendations for Practice

The purpose of this section of Chapter 6 is to make recommendations for practice. One recommendation is for companies to explore the use of crowdfunding as part of a funding strategy. The main reason for doing so, according to Hollas (2013), is that crowdfunders lack the kind of leverage and power to demand equity in the same manner as traditional investors. From the perspective of companies that are seeking investment, an ideal situation would be one in which the maximum amount of investment is received for the minimum amount of equity. In a crowdfunding situation in which no equity is demanded, a company is free to obtain as much investment as possible without having to surrender equity in the company, which would mean a loss of control. One recommendation that can be made to crowdfunding platforms is to aggregate their investing power into equity. If, for example, a large crowdfunding perform is able to provide 10% of a company's total investment needs, then the platform should consider leveraging this position into a demand for increased equity.

6.4 Recommendations for Future Research

The purpose of this section of Chapter 6 is to make recommendations for future scholarship. One of the main recommendations for future scholarship is for empirically oriented researchers to add more covariates to their statistical models. The addition of covariates would allow a more thorough exploration and explanation of quantitative findings. It could be the case, for example, that the percentage of a company's funding that comes from crowdfunding depends on a number of possible factors, including the experience of the company's principals, the amount of money that has already been raised, the total investment requirement, and other factors. In the absence of such covariates, the findings of any empirical study are necessarily limited. However, in order to be able to gather the data necessary to include these covariates in their statistical models, future researchers should work with samples that are small enough to allow more detailed analysis. The sample of the current study (n = 1,000) was too large to allow manual coding of covariates representing different aspects of a company's operations. In addition, future researchers should consider working with samples that span countries. The current study was delimited to Germany; it is possible

that the dynamics of crowdfunding, particularly with respect to other aspects of funding, are different for other countries. One significant aspect to research might be the fact that in terms of the well-regulated German market Crowdfunding platforms tend to relocate there business activities in non-regulated markets like Cyprus, Cayman Islands and others. As Investors, as well as financial institutions as well as SMEs are often not able to identify the business location of a crowdfunding platform during a funding process it might occur an additional risk, which might be worth to investigate.

6.5 Summative Conclusion

The purpose of this mixed-methods study was to answer the following four questions: (RQ1) What is the percentage of crowdfunding in the overall funding of SMEs? (RQ2) Is there a statistically significant relationship between SMEs' reliance on crowdfunding and SMEs' reliance on other—that is, traditional—forms of financing? (RQ3) What is the potential impact on the traditional financing market of a shift in SME financing demand from financial institutions to crowdfunding platforms? (RQ4) In the context of crowdfunding, what are potential regulatory gaps that could lead to systematic risk? All of questions 1 and 2, and some of question 3, were quantitatively answered on the basis of data obtained from 1,000 German SMEs; some of question 3, and all of question 4, was qualitatively answered on the basis of data from 46 experts assembled as part of a Delphi methodology.

The main finding for RQ1 was that there was a statistically significant difference between technology SMEs' reliance on crowdfunding as a percentage of all funding (6.41%. *SD* = 4.30) and nontechnology SMEs' reliance on crowdfunding as a percentage of all funding (3.20%. *SD* = 1.46), $t(998) = 17.575$, $p < .001$. The likely meaning of this finding is that technology companies are more reliant on crowdfunding, for reasons that have been discussed subsequently in this chapter. The main finding for RQ2 was that there were several weak and negative correlations between crowdfunding and other kinds of finding. The likely meaning of this finding is that crowdfunding is actively replacing other kinds of funding; companies that have a larger portion of their funding from crowdfunding have a smaller portion of funding from other kinds of funding.

The main findings for RQ3 were as follows: (a) Crowdfunding is a niche, (b) crowdfunding has a limited future, and (c) crowdfunding is having and will have a limited impact on the funding market. The integrated meaning of these findings is that the potential impact on the traditional financing market of a shift in SME financing demand from financial institutions to crowdfunding platforms is small. The main findings for RQ4 were as follows: (a) The risks of crowdfunding are well-managed by regulation, (b) the risk of crowdfunding is not important from the perspective of systemic risk, and (c) the costs and benefits of crowdfunding can be understood through the prism of encouraging investment vs. protecting investors. The integrated meaning of these findings is that there are in fact some regulatory gaps, but not gaps that are associated with high levels of risk.

The findings were examined in terms of game theory, de-risking, and financial inclusion. Game theory was utilized as a means of explaining how and why companies might prefer crowdfunding to other kinds of funding. De-risking and financial inclusion were utilized to explore the findings related to regulation. Companies were recommended to seek higher proportions of crowdfunding as a means of avoiding the equity demands that accompany traditional investment. Crowdfunding platforms were recommended to explore means of aggregating the investment power of their members into demands for equity. Further research directions on crowdfunding were recommended in order to build what little is known about crowdfunding as an emerging investment platform. Collectively, the findings of the study suggest that crowdfunding has a modest but meaningful role in the funding strategies of SMEs. Because of the ability of crowdfunding to extend the benefits of investment to smaller investors, the findings of the study suggest the likelihood that, in future, the crowdfunding mechanism will more equitably distribute both the risks and rewards of investment. However, because of the limited knowledge base on crowdfunding, more research on this topic is still necessary.

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Appendix A: Financial Crowdfunding Data Sample

year	ind	Comp	cfund	techtype	seed	su	ri	rii	riii	tnonc
2008	Financial Services	37	3,160000086	Non-Tech Company	20,2400	14,1000	6,5100	14,4700	5,3800	60,7000
2008	Education	78	2,619999886	Non-Tech Company	17,3400	6,3600	4,4500	15,0300	9,2900	52,4700
2008	Tech	6	6,46999979	Tech Company	9,9700	15,6700	14,3000	12,5700	4,1900	56,7000
2008	Financial Services	38	3,019999981	Non-Tech Company	23,8000	7,0100	14,3600	14,8000	2,0300	62,0000
2008	Manufacturing	28	2,730000019	Non-Tech Company	16,7100	30,4600	5,0400	12,8200	6,9000	71,9300
2008	Retail	86	2,890000105	Non-Tech Company	12,3100	8,1000	13,2500	15,5400	3,0800	52,2800
2008	Education	63	3,569999933	Non-Tech Company	20,6300	22,9900	17,5100	6,2400	12,1900	79,5600
2008	Financial Services	33	3,170000076	Non-Tech Company	17,0500	25,8000	19,6100	12,9600	5,1700	80,5900
2008	Retail	69	4,869999886	Non-Tech Company	17,6800	6,6100	15,1500	15,9300	8,4000	63,7700
2008	Retail	87	3,569999933	Non-Tech Company	17,9200	11,5100	18,8000	3,9500	0,9500	53,1300
2008	Retail	60	3,859999895	Non-Tech Company	24,4300	4,0100	19,2200	4,8800	10,8800	63,4200
2008	Entertainment	29	4,480000019	Non-Tech Company	14,7400	23,0500	16,9100	6,9600	1,7800	63,4400
2008	Entertainment	45	1,75	Non-Tech Company	9,5600	25,3000	18,3100	15,1800	0,6900	69,0400
2008	Education	91	4,28000021	Non-Tech Company	17,7200	23,1900	9,0800	14,8800	4,1800	69,0500
2008	Tech	19	7,869999886	Tech Company	12,6200	13,1800	1,2800	1,7400	3,4400	32,2600
2008	Tech	42	7,510000229	Tech Company	16,2300	10,7000	12,3000	1,6100	0,6700	41,5100
2008	Entertainment	62	2,430000067	Non-Tech Company	14,3000	15,2400	18,1600	15,2000	3,1700	66,0700
2008	Tech	9	6,650000095	Tech Company	7,9700	3,9500	9,3500	9,6800	5,9500	36,9000
2008	Education	18	1,710000038	Non-Tech Company	19,6300	16,5500	3,8100	4,2600	0,9800	45,2300
2008	Tech	10	7,079999924	Tech Company	20,8300	7,1600	1,3600	1,2000	2,9900	33,5400
2008	Retail	14	2,349999905	Non-Tech Company	20,2400	4,8200	4,6600	7,0500	7,6300	44,4000
2008	Retail	27	4,269999981	Non-Tech Company	15,2200	23,8500	18,7800	7,9800	8,4000	74,2300

2008	Entertainment	96	1,919999957	Non-Tech Company	20,7200	30,3800	2,9100	1,8500	1,0500	56,9100
2008	Retail	76	3,99000001	Non-Tech Company	18,2300	24,2900	8,4500	13,4400	2,1400	66,5500
2008	Tech	4	6,510000229	Tech Company	12,9300	3,6100	3,5400	0,4500	3,7600	24,2900
2008	Manufacturing	54	3,119999886	Non-Tech Company	6,5200	28,5700	15,1700	7,6900	2,7300	60,6800
2008	Entertainment	56	3,230000019	Non-Tech Company	15,3700	23,3000	16,8000	15,3900	7,4300	78,2900
2008	Retail	15	3,089999914	Non-Tech Company	17,7300	7,6400	17,2700	1,2600	7,1900	51,0900
2008	Tech	7	7,059999943	Tech Company	12,6400	22,3700	2,0900	4,1500	0,5800	41,8300
2008	Manufacturing	46	3,720000029	Non-Tech Company	28,0200	12,0100	18,0900	9,8300	3,6100	71,5600
2008	Manufacturing	26	3,039999962	Non-Tech Company	17,2600	21,0400	10,3800	14,4900	6,9700	70,1400
2008	Tech	52	6,889999866	Tech Company	6,2900	5,4700	5,5400	6,9300	0,9200	25,1500
2008	Financial Services	90	3,650000095	Non-Tech Company	14,3000	18,4500	9,5000	3,0500	10,5200	55,8200
2008	Entertainment	72	2,49000001	Non-Tech Company	14,9500	9,7400	20,2700	15,4100	12,9500	73,3200
2008	Financial Services	55	4,090000153	Non-Tech Company	20,5100	26,5400	10,3100	13,1900	1,5300	72,0800
2008	Manufacturing	31	2,880000114	Non-Tech Company	22,8500	18,7700	14,7500	1,1300	9,0600	66,5600
2008	Financial Services	44	2,450000048	Non-Tech Company	10,7600	5,7500	13,0200	2,9900	4,8400	37,3600
2008	Entertainment	49	2,200000048	Non-Tech Company	22,2600	3,6700	8,3600	2,1000	0,4700	36,8600
2008	Manufacturing	82	3,25999999	Non-Tech Company	18,8800	26,5800	9,1600	6,4800	10,6900	71,7900
2008	Education	67	1,529999971	Non-Tech Company	17,3600	16,8000	10,6700	14,5300	2,6700	62,0300
2008	Financial Services	92	2,599999905	Non-Tech Company	15,9800	5,7200	20,4500	6,3600	9,6900	58,2000
2008	Manufacturing	81	2,349999905	Non-Tech Company	23,5100	25,8600	19,0300	4,1900	5,9000	78,4900
2008	Tech	8	4,130000114	Tech Company	15,7600	6,5500	15,2600	13,5700	1,4200	52,5600
2008	Tech	1	5,039999962	Tech Company	14,7800	4,0300	14,5500	0,5900	1,7100	35,6600
2008	Education	61	3,910000086	Non-Tech Company	12,0700	11,3700	7,9400	4,8100	2,4100	38,6000
2008	Tech	51	5,440000057	Tech Company	20,1900	3,9300	10,4300	8,6500	4,3200	47,5200

2008	Retail	66	3,299999952	Non-Tech Company	12,3000	18,1600	20,2800	6,7100	3,0100	60,4600
2008	Manufacturing	21	3,210000038	Non-Tech Company	14,0700	9,5000	9,8100	9,4100	1,1500	43,9400
2008	Entertainment	71	4,53000021	Non-Tech Company	20,5300	21,1300	4,3700	3,0700	10,9500	60,0500
2008	Tech	25	7,300000191	Tech Company	7,7400	15,6300	7,2200	10,5300	1,6000	42,7200
2008	Education	43	1,909999967	Non-Tech Company	9,5600	30,1900	18,6200	11,6300	7,0200	77,0200
2008	Financial Services	65	3,150000095	Non-Tech Company	15,3700	18,0000	17,1400	10,0800	6,2500	66,8400
2008	Manufacturing	84	3,470000029	Non-Tech Company	21,6500	18,3000	20,1700	13,4000	8,4600	81,9800
2008	Tech	48	7,699999809	Tech Company	10,0100	12,0300	8,7800	10,3700	0,7900	41,9800
2008	Financial Services	74	3,700000048	Non-Tech Company	16,5700	25,0200	4,1100	6,3600	2,4700	54,5300
2008	Manufacturing	30	4,059999943	Non-Tech Company	23,9500	21,7500	14,4100	10,0600	12,5700	82,7400
2008	Financial Services	88	1,620000005	Non-Tech Company	18,4100	21,1500	8,8800	11,0200	1,6700	61,1300
2008	Tech	95	4,929999828	Tech Company	15,7700	19,2000	11,4200	1,1900	3,6700	51,2500
2008	Retail	73	3,220000029	Non-Tech Company	24,9700	26,9200	7,3200	15,4200	0,4300	75,0600
2008	Education	24	4,400000095	Non-Tech Company	31,2300	11,2800	3,6400	5,3200	3,0600	54,5300
2008	Manufacturing	79	3,339999914	Non-Tech Company	18,6900	11,0100	9,5800	8,4200	2,3800	50,0800
2008	Education	94	3,589999914	Non-Tech Company	17,6600	22,9800	6,8500	12,8300	4,7000	65,0200
2008	Tech	32	5,71999979	Tech Company	14,8000	13,0100	5,1900	12,1600	4,5500	49,7100
2008	Financial Services	93	3,470000029	Non-Tech Company	7,5500	20,7900	13,8800	2,1400	0,1100	44,4700
2008	Tech	3	4,269999981	Tech Company	12,5300	10,3900	8,9900	10,4600	3,3000	45,6700
2008	Manufacturing	58	2,480000019	Non-Tech Company	27,3500	21,4500	7,4400	1,8500	11,4800	69,5700
2008	Tech	70	7,28000021	Tech Company	15,2100	14,3100	12,9400	11,3800	2,4200	56,2600
2008	Financial Services	59	3,50999999	Non-Tech Company	20,0300	8,7400	14,3900	6,0600	12,0500	61,2700
2008	Financial Services	53	2,920000076	Non-Tech Company	15,2000	18,6300	2,0600	14,3100	10,2000	60,4000
2008	Financial Services	41	2,099999905	Non-Tech Company	23,4200	8,0300	8,9900	8,3300	2,1000	50,8700

2008	Retail	64	3,460000038	Non-Tech Company	14,6100	6,7800	14,9400	11,0600	9,7800	57,1700
2008	Manufacturing	89	3,839999914	Non-Tech Company	27,4900	14,4200	10,8500	7,8500	12,9700	73,5800
2008	Retail	47	2,289999962	Non-Tech Company	20,4800	14,2700	4,5100	12,0800	11,1300	62,4700
2008	Financial Services	39	3,049999952	Non-Tech Company	21,9000	9,2200	18,9900	9,3900	10,9300	70,4300
2008	Tech	23	5,139999866	Tech Company	13,3200	16,1300	0,0400	13,8900	4,3700	47,7500
2008	Tech	40	4,539999962	Tech Company	8,5600	6,6300	1,7200	11,6700	0,1200	28,7000
2008	Manufacturing	35	2,859999895	Non-Tech Company	24,8400	8,4400	7,3200	11,7500	2,7000	55,0500
2008	Manufacturing	99	3,49000001	Non-Tech Company	16,6200	28,9900	19,0600	6,2400	12,7700	83,6800
2008	Tech	2	4,389999866	Tech Company	13,3600	17,9600	4,0900	7,5400	0,1200	43,0700
2008	Financial Services	13	2,210000038	Non-Tech Company	8,9300	29,3500	9,6600	8,5000	0,8900	57,3300
2008	Entertainment	34	4,050000191	Non-Tech Company	26,3500	5,5100	15,4700	7,9400	8,0700	63,3400
2008	Manufacturing	16	2,299999952	Non-Tech Company	21,0200	4,2300	2,5600	8,2300	6,8000	42,8400
2008	Entertainment	80	3,019999981	Non-Tech Company	12,1000	3,0800	12,9000	3,1000	9,2800	40,4600
2008	Tech	5	5,139999866	Tech Company	12,1500	16,5100	1,1100	5,4400	0,9100	36,1200
2008	Tech	97	8,229999542	Tech Company	10,6000	21,4600	4,9000	8,3600	3,6500	48,9700
2008	Financial Services	17	2,910000086	Non-Tech Company	14,7100	16,2400	15,3700	13,2400	4,7400	64,3000
2008	Manufacturing	68	3,230000019	Non-Tech Company	13,4000	25,9200	14,6600	11,6600	11,6700	77,3100
2008	Entertainment	98	3,549999952	Non-Tech Company	20,6600	7,4300	4,7900	5,6700	4,7900	43,3400
2008	Entertainment	100	2,24000001	Non-Tech Company	24,0400	8,2000	17,9100	5,7600	12,0300	67,9400
2008	Tech	50	5,849999905	Tech Company	20,2200	13,8400	6,4700	13,9700	3,8800	58,3800
2008	Financial Services	83	2,180000067	Non-Tech Company	10,7900	10,2700	2,6900	4,9600	0,3800	29,0900
2008	Tech	11	6,920000076	Tech Company	19,5500	7,1900	3,9300	5,9200	3,1300	39,7200
2008	Entertainment	77	3,150000095	Non-Tech Company	21,0300	7,1800	17,2500	14,8600	2,5200	62,8400
2008	Retail	36	4,929999828	Non-Tech Company	23,0800	28,1400	18,5900	4,4200	2,8400	77,0700

2008	Manufacturing	57	3,299999952	Non-Tech Company	15,7300	3,7500	4,5000	14,4600	1,5800	40,0200
2008	Financial Services	75	3,299999952	Non-Tech Company	21,8700	12,8400	12,2500	2,8400	6,1300	55,9300
2008	Tech	12	6,260000229	Tech Company	18,3600	15,3700	16,2300	10,0500	3,1300	63,1400
2008	Tech	85	4,860000134	Tech Company	17,3200	18,8000	2,1600	12,3700	0,8900	51,5400
2008	Entertainment	22	3,099999905	Non-Tech Company	23,1800	7,1700	9,6500	8,8500	10,5200	59,3700
2008	Education	20	1,590000033	Non-Tech Company	22,6500	23,4100	14,6900	6,1600	8,9000	75,8100
2009	Education	169	4,28000021	Non-Tech Company	27,6900	9,1900	8,8900	4,2800	4,9600	55,0100
2009	Education	156	3,210000038	Non-Tech Company	19,9100	8,2500	11,9900	4,7700	10,5900	55,5100
2009	Entertainment	188	3,200000048	Non-Tech Company	26,0000	13,7200	16,8900	9,0000	12,6200	78,2300
2009	Financial Services	153	3	Non-Tech Company	20,3500	22,2900	16,7000	12,0600	5,0200	76,4200
2009	Entertainment	167	2,619999886	Non-Tech Company	8,3100	16,7100	10,4100	3,7500	8,7900	47,9700
2009	Entertainment	162	3,200000048	Non-Tech Company	15,4900	7,4400	16,9600	9,9600	8,5300	58,3800
2009	Entertainment	122	3,390000105	Non-Tech Company	25,8000	5,4500	16,1000	3,9600	6,2500	57,5600
2009	Financial Services	158	18,10000038	Non-Tech Company	18,4600	20,3800	13,4900	5,5600	8,4900	66,3800
2009	Retail	148	5,199999809	Non-Tech Company	5,2700	8,7400	11,6000	7,3500	4,1400	37,1000
2009	Financial Services	151	3,630000114	Non-Tech Company	11,2000	26,6500	6,3200	12,1400	10,3400	66,6500
2009	Manufacturing	199	3,549999952	Non-Tech Company	18,1200	28,8600	20,3000	14,5600	2,0800	83,9200
2009	Entertainment	157	3,710000038	Non-Tech Company	12,4600	18,5900	20,0200	12,4500	6,9500	70,4700
2009	Manufacturing	159	2,809999943	Non-Tech Company	16,2300	10,5700	13,9000	6,7300	2,7200	50,1500
2009	Tech	175	6,71999979	Tech Company	12,8700	6,0100	12,5700	4,1700	2,6000	38,2200
2009	Manufacturing	198	2,950000048	Non-Tech Company	19,8200	20,2600	11,2900	4,2800	11,0900	66,7400
2009	Entertainment	136	3,089999914	Non-Tech Company	35,6100	9,7600	19,4500	6,2800	3,7200	74,8200
2009	Retail	197	3,180000067	Non-Tech Company	17,7100	7,6900	16,5200	15,2100	8,1900	65,3200

2009	Manufacturing	185	3,680000067	Non-Tech Company	22,4700	21,0900	15,1100	2,4800	0,8100	61,9600
2009	Retail	135	4,110000134	Non-Tech Company	26,5500	30,8900	18,0500	7,6700	10,5000	93,6600
2009	Tech	104	7,559999943	Tech Company	13,4400	11,2500	16,4200	4,4500	5,0500	50,6100
2009	Entertainment	118	20	Non-Tech Company	23,0800	13,6600	20,4200	15,9000	4,9100	77,9700
2009	Education	133	2,690000057	Non-Tech Company	11,9100	12,9200	15,2200	13,6300	4,9000	58,5800
2009	Tech	109	4,409999847	Tech Company	15,7000	21,3000	15,9800	0,8600	5,4000	59,2400
2009	Education	193	2,589999914	Non-Tech Company	16,3700	17,0400	11,6800	1,1100	7,7100	53,9100
2009	Manufacturing	200	1,370000005	Non-Tech Company	19,2100	9,5300	16,5200	9,2500	1,4500	55,9600
2009	Tech	125	6,179999828	Tech Company	18,0500	15,2100	12,7100	2,1500	1,3000	49,4200
2009	Tech	183	4,829999924	Tech Company	9,6600	21,9600	7,1500	3,9000	0,7900	43,4600
2009	Retail	186	4,760000229	Non-Tech Company	13,6000	27,5300	14,2200	4,5000	7,8400	67,6900
2009	Entertainment	165	2,220000029	Non-Tech Company	17,6600	15,5400	18,3000	7,6600	9,7200	68,8800
2009	Entertainment	173	3,339999914	Non-Tech Company	15,8000	25,6500	4,5600	13,1200	11,6800	70,8100
2009	Retail	139	3,069999933	Non-Tech Company	22,1800	18,2700	2,3000	9,8700	12,2700	64,8900
2009	Financial Services	177	3,470000029	Non-Tech Company	13,3100	18,6400	8,0700	15,4300	9,1400	64,5900
2009	Tech	106	4,050000191	Tech Company	14,2300	12,6300	11,7600	8,7600	2,8500	50,2300
2009	Education	138	3,349999905	Non-Tech Company	24,4100	10,2900	20,2200	13,6300	4,3800	72,9300
2009	Tech	112	4,599999905	Tech Company	19,2300	15,1500	14,7400	8,7500	1,1000	58,9700
2009	Manufacturing	160	2,609999895	Non-Tech Company	16,1900	28,6000	5,0000	2,1900	8,7400	60,7200
2009	Manufacturing	117	3,049999952	Non-Tech Company	21,0800	11,3000	17,0100	5,3900	10,2300	65,0100
2009	Education	191	10,06000042	Non-Tech Company	17,6700	26,3300	9,7200	6,5400	5,3300	65,5900
2009	Financial Services	123	3,74000001	Non-Tech Company	29,4700	7,7900	5,2300	12,1800	4,6300	59,3000
2009	Tech	121	4,570000172	Tech Company	15,7900	22,0000	16,6700	10,8500	5,0000	70,3100
2009	Entertainment	192	2,559999943	Non-Tech Company	28,2000	15,5700	18,3200	7,8900	5,4700	75,4500
2009	Tech	102	6,699999809	Tech Company	11,4800	15,8500	1,4700	10,5900	2,9200	42,3100

2009	Entertainment	141	3,470000029	Non-Tech Company	9,9700	8,3600	12,1700	5,1600	6,1800	41,8400
2009	Entertainment	161	2,859999895	Non-Tech Company	22,0700	9,6600	5,0200	4,7800	10,6200	52,1500
2009	Entertainment	172	2,029999971	Non-Tech Company	10,0000	3,4700	15,5200	6,2300	2,4700	37,6900
2009	Retail	180	3,380000114	Non-Tech Company	12,5400	27,0300	3,2000	5,1200	3,3600	51,2500
2009	Retail	181	2,849999905	Non-Tech Company	16,3600	22,2300	7,0600	8,6900	8,3500	62,6900
2009	Education	142	3,309999943	Non-Tech Company	17,3300	16,0500	12,5200	5,6200	6,1700	57,6900
2009	Entertainment	152	4,320000172	Non-Tech Company	25,1300	25,8300	10,6000	4,1100	8,8700	74,5400
2009	Tech	108	9,159999847	Tech Company	11,3000	15,9300	2,8100	6,2400	1,8800	38,1600
2009	Retail	114	3,130000114	Non-Tech Company	21,6800	10,6100	2,7600	6,4500	6,1600	47,6600
2009	Entertainment	137	2,74000001	Non-Tech Company	18,7600	5,1900	3,3900	5,4700	0,4600	33,2700
2009	Manufacturing	196	3,400000095	Non-Tech Company	16,3300	19,7200	14,3800	13,8700	7,6700	71,9700
2009	Entertainment	155	2,470000029	Non-Tech Company	22,8600	6,6100	20,9300	10,2800	6,8600	67,5400
2009	Entertainment	132	4,510000229	Non-Tech Company	28,4000	13,1100	14,1000	12,6200	7,2900	75,5200
2009	Manufacturing	140	2,900000095	Non-Tech Company	27,7800	23,8300	14,7800	1,4400	8,3700	76,2000
2009	Entertainment	163	2,890000105	Non-Tech Company	26,0000	23,8600	20,8000	14,2000	2,9400	87,8000
2009	Education	131	2,079999924	Non-Tech Company	18,1400	21,9800	17,0800	10,2600	3,5700	71,0300
2009	Tech	147	5,929999828	Tech Company	10,5400	16,1700	7,7800	11,9900	5,7300	52,2100
2009	Retail	120	3,210000038	Non-Tech Company	17,2400	15,5000	19,7900	2,8300	2,8600	58,2200
2009	Retail	170	4,03000021	Non-Tech Company	8,0100	21,5500	4,9500	9,3400	2,5600	46,4100
2009	Entertainment	145	3,710000038	Non-Tech Company	28,9800	11,7900	11,3800	14,3900	9,5800	76,1200
2009	Tech	103	5,079999924	Tech Company	9,9500	18,8900	11,8000	5,4500	5,0100	51,1000
2009	Tech	195	7,449999809	Tech Company	19,2800	22,2600	3,3700	13,1300	0,8600	58,9000
2009	Retail	179	3,680000067	Non-Tech Company	21,8500	21,2800	3,2600	8,9000	9,8400	65,1300

2009	Manufacturing	115	2,00999999	Non-Tech Company	15,9000	19,8300	18,9900	3,4200	5,3800	63,5200
2009	Education	189	4,449999809	Non-Tech Company	19,2900	9,9300	11,5800	10,9800	0,0600	51,8400
2009	Retail	127	3,470000029	Non-Tech Company	20,8700	4,4800	2,9600	9,5000	8,0900	45,9000
2009	Financial Services	149	1,899999976	Non-Tech Company	27,5100	13,1300	18,5000	13,5700	1,9100	74,6200
2009	Retail	144	3,859999895	Non-Tech Company	13,5500	18,9500	12,0700	7,7700	4,5800	56,9200
2009	Tech	182	7,010000229	Tech Company	5,9000	10,4000	1,5700	6,7900	5,8500	30,5100
2009	Tech	174	3,309999943	Tech Company	12,7500	13,2000	10,3500	4,0100	4,0800	44,3900
2009	Retail	171	2,130000114	Non-Tech Company	13,3700	21,3300	3,3200	8,4900	7,6600	54,1700
2009	Retail	113	3,279999971	Non-Tech Company	11,0600	4,0300	10,6000	9,1500	2,2800	37,1200
2009	Education	187	3,829999924	Non-Tech Company	30,3000	18,8000	5,6400	5,9300	2,8900	63,5600
2009	Manufacturing	116	3,859999895	Non-Tech Company	17,1000	28,3600	7,9600	6,8500	8,4500	68,7200
2009	Entertainment	126	3,230000019	Non-Tech Company	14,7500	13,3200	4,8500	8,2200	1,6200	42,7600
2009	Entertainment	164	3,819999933	Non-Tech Company	11,1000	4,4400	5,8400	5,4000	12,7000	39,4800
2009	Education	178	4,639999866	Non-Tech Company	16,9100	3,6700	2,6600	8,7000	7,9900	39,9300
2009	Education	154	2,670000076	Non-Tech Company	20,3900	18,8200	19,3900	4,6700	2,8200	66,0900
2009	Tech	110	6,400000095	Tech Company	14,2600	16,2300	9,8300	6,3200	0,3600	47,0000
2009	Entertainment	190	4,210000038	Non-Tech Company	25,7800	19,8500	15,0400	2,0900	12,0100	74,7700
2009	Education	134	3,910000086	Non-Tech Company	11,2300	9,1400	9,3500	12,5200	2,0100	44,2500
2009	Retail	128	3,339999914	Non-Tech Company	20,6300	15,6400	8,4800	15,9900	1,9000	62,6400
2009	Entertainment	130	2,769999981	Non-Tech Company	22,2000	17,3300	9,6600	13,2400	1,3000	63,7300
2009	Manufacturing	129	2,25	Non-Tech Company	13,9300	22,8100	11,9200	7,3600	3,1100	59,1300
2009	Tech	146	6,78000021	Tech Company	12,8200	19,2000	15,6900	3,2900	1,5300	52,5300
2009	Tech	168	6,650000095	Tech Company	12,6500	16,1500	8,2900	3,1400	4,2700	44,5000
2009	Retail	143	3,130000114	Non-Tech Company	24,5800	4,0900	16,1200	8,5500	2,2100	55,5500

2009	Tech	105	9,210000038	Tech Company	0,4700	8,4100	7,6300	2,5300	0,7700	19,8100
2009	Financial Services	184	3,390000105	Non-Tech Company	14,6800	27,9900	3,3400	1,9100	11,1700	59,0900
2009	Education	176	2,609999895	Non-Tech Company	23,6800	13,2300	11,1300	4,2400	0,7800	53,0600
2009	Retail	166	3,980000019	Non-Tech Company	20,5600	5,2100	12,5700	7,5300	8,6400	54,5100
2009	Tech	111	4,199999809	Tech Company	15,1000	11,4000	8,6700	2,8400	4,7600	42,7700
2009	Tech	107	5,599999905	Tech Company	20,0100	6,5800	0,4500	3,5000	1,5000	32,0400
2009	Education	150	4,320000172	Non-Tech Company	15,7400	12,1200	8,2000	1,7400	12,7500	50,5500
2009	Tech	194	5,590000153	Tech Company	12,1000	13,4100	3,1000	4,9000	3,3600	36,8700
2009	Tech	101	3,859999895	Tech Company	15,3300	8,3000	3,5500	10,6000	3,5500	41,3300
2009	Manufacturing	119	2,980000019	Non-Tech Company	14,6200	7,9100	8,3900	9,0500	4,7400	44,7100
2009	Education	124	2,849999905	Non-Tech Company	21,8400	24,4600	3,8300	8,4700	3,2500	61,8500
2010	Financial Services	283	2,029999971	Non-Tech Company	13,1100	10,1300	16,3500	3,4500	2,2900	45,3300
2010	Financial Services	243	3,539999962	Non-Tech Company	7,9500	23,4500	3,7800	1,7500	7,4500	44,3800
2010	Retail	298	2,420000076	Non-Tech Company	12,9100	22,3400	13,8100	7,9100	10,7600	67,7300
2010	Education	282	2,460000038	Non-Tech Company	15,0100	26,2300	11,8000	1,0500	11,0300	65,1200
2010	Education	228	3,369999886	Non-Tech Company	21,0700	14,5500	3,4900	13,1600	4,8800	57,1500
2010	Tech	253	4,110000134	Tech Company	13,9300	19,7500	5,5100	10,2200	2,9300	52,3400
2010	Manufacturing	266	3,49000001	Non-Tech Company	24,4300	19,7300	9,3900	5,4800	6,6000	65,6300
2010	Entertainment	214	4,559999943	Non-Tech Company	12,5400	26,2400	8,4800	12,2500	6,3700	65,8800
2010	Tech	201	4,349999905	Tech Company	24,5800	5,4400	14,4200	6,9000	1,5600	52,9000
2010	Tech	210	6,110000134	Tech Company	13,6200	6,7300	14,4800	11,4600	2,3000	48,5900
2010	Retail	231	3,339999914	Non-Tech Company	24,3300	23,9000	4,8900	8,1000	0,7600	61,9800
2010	Tech	296	5,329999924	Tech Company	14,7700	17,7300	1,1700	11,4700	2,2900	47,4300
2010	Retail	234	3,039999962	Non-Tech Company	19,2600	24,7700	12,5500	8,3100	10,7200	75,6100
2010	Financial Services	256	2,930000067	Non-Tech Company	20,2600	6,2700	10,9700	10,3600	5,4100	53,2700

2010	Manufacturing	275	2,549999952	Non-Tech Company	16,1700	19,4400	17,9700	1,2300	8,8300	63,6400
2010	Financial Services	227	4,289999962	Non-Tech Company	16,4200	5,0400	7,6700	6,7800	9,6200	45,5300
2010	Financial Services	288	3,329999924	Non-Tech Company	14,7500	27,0000	12,2200	8,5100	2,1700	64,6500
2010	Entertainment	278	3,269999981	Non-Tech Company	19,6900	28,6500	9,7900	2,5100	7,4200	68,0600
2010	Manufacturing	289	3,809999943	Non-Tech Company	12,0700	4,5600	11,3500	11,0700	9,6700	48,7200
2010	Entertainment	259	2,200000048	Non-Tech Company	18,7300	16,0500	14,2800	11,1700	7,6700	67,9000
2010	Tech	206	5,010000229	Tech Company	12,8700	11,6000	13,5300	3,9700	1,0700	43,0400
2010	Retail	299	2,190000057	Non-Tech Company	21,2800	15,1300	11,5700	14,9800	0,4600	63,4200
2010	Education	230	3,369999886	Non-Tech Company	8,7500	22,3200	9,9300	10,7000	4,1200	55,8200
2010	Retail	238	2,99000001	Non-Tech Company	23,4900	14,3300	7,6400	6,5000	7,6500	59,6100
2010	Manufacturing	258	3,809999943	Non-Tech Company	19,1300	7,3500	18,9500	12,9800	12,0800	70,4900
2010	Retail	216	3,670000076	Non-Tech Company	17,5100	24,9900	10,4600	12,2500	8,8200	74,0300
2010	Entertainment	233	3,150000095	Non-Tech Company	22,7600	22,3000	10,0900	15,4000	0,2900	70,8400
2010	Retail	274	2,380000114	Non-Tech Company	22,6300	18,8400	3,5100	2,5700	10,6400	58,1900
2010	Entertainment	255	2,700000048	Non-Tech Company	14,7800	16,5800	15,1200	5,5400	8,6200	60,6400
2010	Tech	205	7,960000038	Tech Company	22,8400	12,3100	9,6600	10,7600	1,1000	56,6700
2010	Retail	226	3,019999981	Non-Tech Company	22,7500	24,1800	5,7200	13,3300	0,0200	66,0000
2010	Education	280	2,839999914	Non-Tech Company	20,2100	20,3700	19,4000	4,2200	3,3700	67,5700
2010	Tech	208	7,239999771	Tech Company	14,6000	10,4700	0,7500	0,0500	5,1800	31,0500
2010	Tech	212	6,960000038	Tech Company	18,3400	11,6700	1,7700	3,7400	3,5600	39,0800
2010	Financial Services	250	1,720000029	Non-Tech Company	16,5100	4,9800	20,0100	6,8600	11,9500	60,3100
2010	Education	267	2,50999999	Non-Tech Company	20,6600	24,1100	12,1300	3,1700	0,5100	60,5800
2010	Tech	271	6,150000095	Tech Company	12,7300	22,6400	16,6600	11,2500	3,3800	66,6600
2010	Education	260	2,930000067	Non-Tech Company	21,2700	15,9600	13,7800	13,1400	10,8400	74,9900

2010	Retail	294	2,349999905	Non-Tech Company	13,6400	24,5100	11,9600	4,7200	2,2600	57,0900
2010	Retail	262	2,380000114	Non-Tech Company	24,7900	28,8200	17,9000	9,7000	3,7700	84,9800
2010	Tech	207	7,300000191	Tech Company	14,4900	9,5500	0,5800	4,5100	4,5200	33,6500
2010	Tech	211	8,350000381	Tech Company	9,5600	22,3800	9,9600	13,7800	0,5700	56,2500
2010	Tech	293	5,679999828	Tech Company	7,5300	11,4000	1,9500	5,8000	1,6400	28,3200
2010	Education	222	4,21999979	Non-Tech Company	17,7300	12,2500	6,5700	7,9900	11,8100	56,3500
2010	Financial Services	285	4,260000229	Non-Tech Company	12,7300	22,5500	11,0300	11,8000	11,1900	69,3000
2010	Retail	279	3,069999933	Non-Tech Company	24,4900	11,0500	11,5100	6,7400	12,9700	66,7600
2010	Education	276	3,019999981	Non-Tech Company	19,8100	6,7200	12,8100	12,9800	10,1900	62,5100
2010	Retail	264	2,930000067	Non-Tech Company	16,0600	22,3800	20,2600	13,9600	1,1000	73,7600
2010	Tech	300	5,840000153	Tech Company	12,2600	7,0300	3,9000	11,3000	5,1300	39,6200
2010	Financial Services	240	2,430000067	Non-Tech Company	24,2000	18,4600	6,9500	10,3700	3,7100	63,6900
2010	Retail	257	1,879999995	Non-Tech Company	17,5900	5,6100	9,2000	8,4500	9,3800	50,2300
2010	Financial Services	221	3,359999895	Non-Tech Company	18,5300	21,1300	17,8400	15,9600	2,5600	76,0200
2010	Entertainment	248	2,910000086	Non-Tech Company	12,3200	23,5100	15,5000	9,6100	0,1300	61,0700
2010	Financial Services	277	3,640000105	Non-Tech Company	26,2800	13,6300	11,8400	5,2100	9,0500	66,0100
2010	Entertainment	215	1,860000014	Non-Tech Company	28,6800	19,5100	4,2300	12,5000	1,5300	66,4500
2010	Manufacturing	249	2,420000076	Non-Tech Company	24,8600	5,8200	15,9300	13,9400	5,6100	66,1600
2010	Retail	247	2,710000038	Non-Tech Company	17,0600	13,4300	7,8700	15,2000	3,6200	57,1800
2010	Manufacturing	281	3,309999943	Non-Tech Company	13,6000	26,9900	10,2300	6,2100	5,2500	62,2800
2010	Tech	272	4,960000038	Tech Company	22,0000	16,7300	9,1600	3,8900	0,5000	52,2800
2010	Retail	254	2,890000105	Non-Tech Company	25,1200	22,3800	16,2000	4,1600	1,4600	69,3200
2010	Education	291	2,75	Non-Tech Company	19,5700	12,7200	15,2600	6,9300	8,7900	63,2700
2010	Manufacturing	229	3,480000019	Non-Tech Company	21,0800	13,8200	9,7300	14,0300	10,2500	68,9100

2010	Retail	270	3,619999886	Non-Tech Company	18,8800	13,1300	20,0500	2,1500	9,7500	63,9600
2010	Entertainment	252	2,700000048	Non-Tech Company	15,1800	4,5800	5,3500	3,1200	8,8000	37,0300
2010	Entertainment	268	1,940000057	Non-Tech Company	11,8900	24,5700	8,3500	3,5100	5,7300	54,0500
2010	Financial Services	225	4,329999924	Non-Tech Company	25,9100	7,2600	3,9400	4,1100	1,5900	42,8100
2010	Education	217	2,730000019	Non-Tech Company	16,9500	8,9900	7,9900	6,1000	8,4000	48,4300
2010	Manufacturing	273	2,960000038	Non-Tech Company	18,4400	13,1300	11,1100	10,9500	12,7300	66,3600
2010	Tech	203	3,480000019	Tech Company	13,0600	18,9500	7,9300	4,1900	1,0400	45,1700
2010	Tech	204	4,679999828	Tech Company	10,1400	10,1000	14,2900	5,7800	4,3700	44,6800
2010	Financial Services	263	2,829999924	Non-Tech Company	10,7300	27,8400	11,1400	13,2800	10,1800	73,1700
2010	Entertainment	236	2,319999933	Non-Tech Company	21,3400	28,0700	19,3000	12,4800	8,3500	89,5400
2010	Manufacturing	290	2,339999914	Non-Tech Company	11,6700	10,9100	7,7000	12,0900	3,7100	46,0800
2010	Education	246	2,839999914	Non-Tech Company	12,2200	10,8700	2,4400	6,9200	5,2700	37,7200
2010	Retail	251	3,25999999	Non-Tech Company	20,6700	5,7900	7,5700	10,5300	12,7000	57,2600
2010	Manufacturing	244	3,019999981	Non-Tech Company	18,6000	16,9100	4,1300	11,2900	12,9200	63,8500
2010	Financial Services	295	2,690000057	Non-Tech Company	19,8200	30,6600	12,5500	8,8200	5,6000	77,4500
2010	Education	224	3,549999952	Non-Tech Company	19,1900	19,3000	7,2000	9,2100	10,9200	65,8200
2010	Financial Services	269	4,53000021	Non-Tech Company	16,1000	26,9100	13,2900	6,2800	2,3400	64,9200
2010	Financial Services	292	3,819999933	Non-Tech Company	21,9300	5,0600	18,7800	12,2000	12,3100	70,2800
2010	Tech	239	7,110000134	Tech Company	13,6600	9,9400	4,7200	3,8600	5,9200	38,1000
2010	Entertainment	219	2,549999952	Non-Tech Company	19,1400	4,4100	8,2500	3,6700	7,6200	43,0900
2010	Financial Services	287	2,660000086	Non-Tech Company	9,4200	26,0300	19,3600	15,1500	10,5700	80,5300
2010	Retail	286	2,220000029	Non-Tech Company	19,7700	18,3900	3,4600	8,9500	3,7300	54,3000
2010	Education	284	3,160000086	Non-Tech Company	31,8600	12,3600	16,7200	11,4400	2,4100	74,7900

2010	Education	213	3,440000057	Non-Tech Company	24,0100	24,7800	4,6800	1,1100	9,3000	63,8800
2010	Financial Services	297	2,24000001	Non-Tech Company	16,8000	21,1300	7,0500	5,1500	8,3100	58,4400
2010	Tech	209	6,210000038	Tech Company	10,2400	3,7300	5,4300	9,8000	3,1700	32,3700
2010	Education	241	1,529999971	Non-Tech Company	20,8000	6,7100	5,1500	10,1400	12,5300	55,3300
2010	Education	218	3,220000029	Non-Tech Company	18,1900	25,5100	18,7300	11,2800	3,2800	76,9900
2010	Tech	202	5,559999943	Tech Company	6,1700	11,4700	8,4400	11,9500	0,3500	38,3800
2010	Manufacturing	235	4,440000057	Non-Tech Company	11,6800	22,6900	8,8400	7,9100	11,1800	62,3000
2010	Manufacturing	261	3,75999999	Non-Tech Company	12,9900	12,0400	11,4500	1,1500	4,6800	42,3100
2010	Retail	232	3,230000019	Non-Tech Company	20,5800	30,9700	17,8900	11,9500	8,5600	89,9500
2010	Financial Services	265	2,25	Non-Tech Company	11,4500	29,1800	14,9600	7,2000	11,3900	74,1800
2010	Retail	223	3,74000001	Non-Tech Company	9,4800	9,1000	2,1700	12,3000	9,5700	42,6200
2010	Education	237	2,980000019	Non-Tech Company	18,7100	10,2300	3,6700	14,1400	0,7600	47,5100
2010	Retail	220	2,809999943	Non-Tech Company	16,1400	17,3500	14,0300	2,1100	11,0200	60,6500
2010	Manufacturing	242	3,150000095	Non-Tech Company	10,0800	18,7100	16,5100	6,9600	0,4100	52,6700
2010	Manufacturing	245	3,230000019	Non-Tech Company	18,8100	8,6800	6,9900	13,6900	10,3700	58,5400
2011	Education	383	3,660000086	Non-Tech Company	31,4000	22,8100	8,2300	7,4100	7,8300	77,6800
2011	Entertainment	359	3,650000095	Non-Tech Company	11,4400	8,0500	17,3200	7,4200	7,8000	52,0300
2011	Education	329	2,25999999	Non-Tech Company	18,9200	22,8900	16,1100	15,7000	3,2500	76,8700
2011	Financial Services	397	2,720000029	Non-Tech Company	22,2000	12,9000	9,7300	6,0000	5,5700	56,4000
2011	Entertainment	315	2,319999933	Non-Tech Company	16,7900	13,4300	16,6200	13,1000	9,4200	69,3600
2011	Tech	347	56,68999863	Tech Company	14,9300	16,1800	10,6700	6,9900	0,5200	49,2900
2011	Financial Services	399	5,21999979	Non-Tech Company	22,3900	12,1100	8,3400	6,0700	4,7800	53,6900
2011	Entertainment	366	3,24000001	Non-Tech Company	22,6200	9,0200	6,0700	2,1600	5,4600	45,3300

2011	Entertainment	396	1,970000029	Non-Tech Company	19,7000	19,7200	11,4300	3,3700	2,4100	56,6300
2011	Tech	307	7,639999866	Tech Company	12,5900	18,4400	12,0700	10,6100	2,5800	56,2900
2011	Financial Services	355	2,950000048	Non-Tech Company	29,2500	27,4800	11,6800	15,8100	4,1000	88,3200
2011	Tech	304	6,429999828	Tech Company	13,0800	5,2900	12,1000	13,0100	0,9100	44,3900
2011	Financial Services	330	3,559999943	Non-Tech Company	13,5100	5,9700	4,3200	13,8800	12,3500	50,0300
2011	Manufacturing	369	1,149999976	Non-Tech Company	21,4400	26,4200	11,6700	15,4200	7,8400	82,7900
2011	Education	385	4,449999809	Non-Tech Company	25,5200	23,6600	4,6800	2,4000	11,0200	67,2800
2011	Entertainment	325	4,21999979	Non-Tech Company	11,9800	29,1800	14,0700	15,6800	10,7600	81,6700
2011	Manufacturing	376	2,049999952	Non-Tech Company	25,8300	10,8900	11,3600	8,0100	6,1700	62,2600
2011	Entertainment	317	3,369999886	Non-Tech Company	18,8300	27,5800	2,7100	3,7900	3,8800	56,7900
2011	Retail	378	2,710000038	Non-Tech Company	24,7800	11,0600	18,8800	7,7900	8,6500	71,1600
2011	Retail	338	4,340000153	Non-Tech Company	12,4900	29,3200	5,1100	11,0100	8,4100	66,3400
2011	Tech	310	7,309999943	Tech Company	6,8800	7,1000	16,5300	1,3500	0,3900	32,2500
2011	Education	372	4,75	Non-Tech Company	13,2300	26,0900	13,1800	1,4800	5,9000	59,8800
2011	Manufacturing	393	3,109999895	Non-Tech Company	19,3200	17,2800	10,8600	1,3600	5,6800	54,5000
2011	Tech	365	4,420000076	Tech Company	8,0800	20,7300	7,5500	7,5400	5,1900	49,0900
2011	Tech	301	6,380000114	Tech Company	8,4300	13,3500	15,2300	6,4800	0,0500	43,5400
2011	Manufacturing	345	2,960000038	Non-Tech Company	29,1100	14,5400	9,5300	5,0800	7,8000	66,0600
2011	Retail	354	3,569999933	Non-Tech Company	27,2700	22,0600	3,6700	2,3000	9,3900	64,6900
2011	Manufacturing	357	2,869999886	Non-Tech Company	22,2400	28,7400	3,1200	8,9000	1,8400	64,8400
2011	Manufacturing	398	3,200000048	Non-Tech Company	29,9500	8,4300	8,0300	9,5600	7,3400	63,3100
2011	Retail	391	3,25999999	Non-Tech Company	19,1900	18,9200	9,1000	9,8200	1,9200	58,9500
2011	Manufacturing	373	3,619999886	Non-Tech Company	23,9900	8,7600	13,5400	4,5600	10,5400	61,3900
2011	Tech	311	5,300000191	Tech Company	13,0600	11,2800	1,8600	11,9700	2,6400	40,8100

2011	Retail	333	3,609999895	Non-Tech Company	18,9900	17,5300	2,8700	5,9300	6,6400	51,9600
2011	Retail	328	3,660000086	Non-Tech Company	8,9900	10,4200	17,2100	6,5200	9,1800	52,3200
2011	Tech	334	6,260000229	Tech Company	13,5200	18,6200	7,5200	1,8800	1,0500	42,5900
2011	Manufacturing	375	3,230000019	Non-Tech Company	12,4700	21,6400	15,9700	1,9400	9,6400	61,6600
2011	Tech	342	6,400000095	Tech Company	15,2300	6,1800	9,1300	0,6800	1,1200	32,3400
2011	Manufacturing	335	4,019999981	Non-Tech Company	17,1600	6,2500	7,7300	14,0000	4,2400	49,3800
2011	Retail	323	3,220000029	Non-Tech Company	17,4600	19,3800	12,3500	10,7400	1,3100	61,2400
2011	Education	384	4,349999905	Non-Tech Company	18,8100	20,5400	9,2800	6,9000	1,8100	57,3400
2011	Entertainment	380	1,840000033	Non-Tech Company	22,5400	8,4000	5,2100	2,6200	12,9800	51,7500
2011	Manufacturing	321	3,25	Non-Tech Company	23,5200	27,3900	4,2700	11,9000	3,6100	70,6900
2011	Entertainment	390	3,319999933	Non-Tech Company	13,9300	26,1600	9,0300	2,9900	1,9200	54,0300
2011	Tech	332	4,210000038	Tech Company	14,9300	3,4600	8,5500	8,3900	1,3500	36,6800
2011	Tech	302	6,059999943	Tech Company	18,1900	4,2900	5,9600	5,3500	3,2000	36,9900
2011	Tech	360	6,28000021	Tech Company	20,1800	18,8800	9,3700	9,6100	2,6800	60,7200
2011	Financial Services	322	4,019999981	Non-Tech Company	22,1200	26,5200	9,6800	5,0600	9,0200	72,4000
2011	Retail	318	3,539999962	Non-Tech Company	18,5200	12,9600	2,1100	5,0100	12,0000	50,6000
2011	Tech	388	6,659999847	Tech Company	8,4100	4,2900	0,4900	0,2700	4,6000	18,0600
2011	Manufacturing	339	3	Non-Tech Company	13,4500	24,4800	5,2300	6,4900	10,3700	60,0200
2011	Manufacturing	349	2,420000076	Non-Tech Company	21,7400	9,7200	8,2200	4,9600	4,7300	49,3700
2011	Manufacturing	346	2,349999905	Non-Tech Company	16,5400	15,0600	19,7200	8,0500	7,0600	66,4300
2011	Entertainment	392	2,960000038	Non-Tech Company	20,4300	15,7000	3,1900	6,3200	4,0400	49,6800
2011	Retail	313	2,609999895	Non-Tech Company	13,3400	8,4800	3,1500	2,6300	10,2500	37,8500
2011	Retail	324	3,049999952	Non-Tech Company	16,4500	16,2600	4,3800	1,8400	4,8300	43,7600
2011	Entertainment	314	2,170000076	Non-Tech Company	20,9100	6,2000	6,2800	11,6500	0,2900	45,3300

2011	Financial Services	353	2,619999886	Non-Tech Company	11,0800	25,3600	4,9600	4,0600	3,7600	49,2200
2011	Financial Services	320	1,730000019	Non-Tech Company	22,9700	26,4700	16,2500	10,1500	10,0400	85,8800
2011	Manufacturing	351	3,569999933	Non-Tech Company	14,3100	23,3000	9,7400	2,6300	9,2100	59,1900
2011	Retail	370	3,339999914	Non-Tech Company	18,3100	6,2000	6,9300	13,4900	12,3100	57,2400
2011	Tech	312	5,670000076	Tech Company	7,8100	12,6800	8,8400	13,9300	4,7200	47,9800
2011	Retail	377	2,799999952	Non-Tech Company	8,6300	23,1400	14,5200	1,2900	4,9400	52,5200
2011	Tech	303	5,679999828	Tech Company	9,1500	6,7100	15,0600	3,6400	3,3600	37,9200
2011	Entertainment	352	3,970000029	Non-Tech Company	19,7700	18,3100	4,4400	9,8000	11,4200	63,7400
2011	Financial Services	344	2,430000067	Non-Tech Company	19,7100	21,4500	2,5200	5,9900	6,5000	56,1700
2011	Manufacturing	364	3,24000001	Non-Tech Company	21,5700	11,1700	14,6100	11,7000	7,2800	66,3300
2011	Manufacturing	374	2,430000067	Non-Tech Company	5,2100	15,5100	5,9000	14,3100	0,9800	41,9100
2011	Tech	306	6,940000057	Tech Company	11,8500	16,7400	8,0700	0,2700	5,7700	42,7000
2011	Financial Services	326	2,339999914	Non-Tech Company	17,1200	14,8200	15,5000	10,0500	3,6200	61,1100
2011	Education	337	3,380000114	Non-Tech Company	10,9600	22,1400	13,3900	10,6000	7,5700	64,6600
2011	Education	341	2,519999981	Non-Tech Company	16,2700	3,4600	17,9000	13,3000	7,2000	58,1300
2011	Manufacturing	361	2,910000086	Non-Tech Company	8,6600	24,9700	19,7000	5,5700	7,2600	66,1600
2011	Retail	362	3,789999962	Non-Tech Company	12,9400	24,4000	19,9200	14,2500	5,5400	77,0500
2011	Financial Services	400	3,420000076	Non-Tech Company	10,5300	7,5900	10,6800	13,1000	10,4900	52,3900
2011	Entertainment	371	3,279999971	Non-Tech Company	14,4000	6,8100	3,6100	7,3700	9,2400	41,4300
2011	Retail	331	3,140000105	Non-Tech Company	20,2900	28,7200	19,4800	7,7800	1,9700	78,2400
2011	Tech	308	5,409999847	Tech Company	16,3000	13,6400	13,7000	1,4400	4,6400	49,7200
2011	Manufacturing	327	3,400000095	Non-Tech Company	13,3200	4,1300	7,3200	5,9200	8,8000	39,4900
2011	Financial Services	348	2,880000114	Non-Tech Company	13,4300	7,5300	15,6700	4,6700	0,6100	41,9100

2011	Manufacturing	367	2,980000019	Non-Tech Company	12,3800	4,0900	2,4300	2,9600	7,5400	29,4000
2011	Financial Services	368	2,670000076	Non-Tech Company	17,7200	9,9100	2,6600	9,7200	9,1000	49,1100
2011	Financial Services	389	3,150000095	Non-Tech Company	15,8400	9,8100	18,1100	11,9100	3,9000	59,5700
2011	Manufacturing	386	4,059999943	Non-Tech Company	14,3400	4,1700	15,2400	11,4000	2,6200	47,7700
2011	Financial Services	319	2,420000076	Non-Tech Company	28,0300	15,4300	4,1000	2,9200	11,5600	62,0400
2011	Manufacturing	340	3,150000095	Non-Tech Company	16,3500	25,8700	18,4200	3,3800	7,9100	71,9300
2011	Retail	350	3,289999962	Non-Tech Company	12,9200	4,3800	2,5800	9,4800	3,2700	32,6300
2011	Entertainment	382	3,589999914	Non-Tech Company	22,4300	20,8400	2,5400	2,2500	5,0000	53,0600
2011	Education	336	3,410000086	Non-Tech Company	23,2300	10,4300	9,4900	4,2200	6,7900	54,1600
2011	Tech	305	7,929999828	Tech Company	20,1700	15,3100	13,6600	12,6700	4,7400	66,5500
2011	Manufacturing	343	1,669999957	Non-Tech Company	20,7300	29,5200	4,6100	12,8400	4,6000	72,3000
2011	Tech	394	6,260000229	Tech Company	5,3100	9,0100	15,4400	5,5900	0,9800	36,3300
2011	Tech	309	6,099999905	Tech Company	19,9600	16,9800	6,9900	8,2300	1,5000	53,6600
2011	Financial Services	358	4,53000021	Non-Tech Company	19,8900	19,9200	4,8000	13,5900	3,1500	61,3500
2011	Manufacturing	387	1,99000001	Non-Tech Company	26,1800	27,3600	20,5800	13,0100	12,4300	99,5600
2011	Retail	316	3,170000076	Non-Tech Company	20,5700	13,9000	11,1500	5,3300	0,9200	51,8700
2011	Tech	356	6,139999866	Tech Company	20,7200	16,3600	7,1700	2,9400	0,1400	47,3300
2011	Retail	363	2,839999914	Non-Tech Company	20,9700	20,5600	6,7300	10,7200	5,0200	64,0000
2011	Retail	381	2,920000076	Non-Tech Company	29,2200	25,1500	2,9500	7,0700	11,0400	75,4300
2011	Financial Services	395	3,700000048	Non-Tech Company	15,4400	16,7600	6,3500	12,0000	3,1100	53,6600
2011	Entertainment	379	2,900000095	Non-Tech Company	20,1400	25,7200	19,3200	9,2300	3,2900	77,7000
2012	Tech	415	3,730000019	Tech Company	10,2300	4,6900	14,0200	9,1300	0,5900	38,6600
2012	Retail	442	3,420000076	Non-Tech Company	14,6600	7,4100	15,2800	4,3000	3,8100	45,4600
2012	Retail	491	4,480000019	Non-Tech Company	12,2000	11,1800	2,2600	4,0100	11,6100	41,2600

2012	Tech	411	7,449999809	Tech Company	16,5700	4,4600	14,6300	12,2500	0,3700	48,2800
2012	Financial Services	423	2,730000019	Non-Tech Company	20,1300	4,0300	9,6500	2,0200	12,2000	48,0300
2012	Retail	424	4,420000076	Non-Tech Company	19,9900	6,7700	19,5300	7,8900	5,3200	59,5000
2012	Retail	482	1,200000048	Non-Tech Company	15,3900	16,5100	10,1900	6,2500	1,5600	49,9000
2012	Financial Services	487	2,769999981	Non-Tech Company	17,4700	18,8600	4,5300	6,5300	11,2800	58,6700
2012	Manufacturing	497	2,160000086	Non-Tech Company	18,2000	14,4400	6,6200	3,4500	1,5000	44,2100
2012	Education	470	3,599999905	Non-Tech Company	15,6200	25,9700	10,0300	9,3300	12,1100	73,0600
2012	Entertainment	413	2,559999943	Non-Tech Company	19,8100	24,2900	12,0500	11,5900	5,0500	72,7900
2012	Tech	412	4,78000021	Tech Company	14,2900	11,3300	14,9300	9,6700	4,0100	54,2300
2012	Financial Services	477	2,599999905	Non-Tech Company	16,2500	6,6700	7,1800	9,8200	1,0500	40,9700
2012	Retail	492	2,589999914	Non-Tech Company	16,7400	19,6100	20,1800	12,4200	10,6400	79,5900
2012	Manufacturing	450	1,419999957	Non-Tech Company	24,3600	18,6800	11,8900	13,5000	10,6300	79,0600
2012	Retail	483	4,099999905	Non-Tech Company	8,2100	9,4300	11,4900	13,3500	8,5500	51,0300
2012	Entertainment	447	3,74000001	Non-Tech Company	11,9300	10,2800	10,9800	8,7500	5,9200	47,8600
2012	Manufacturing	419	3,75999999	Non-Tech Company	13,1800	4,4100	7,8900	2,7300	0,3000	28,5100
2012	Entertainment	464	3,24000001	Non-Tech Company	17,1700	11,3200	20,6600	9,9200	12,3100	71,3800
2012	Tech	406	6,090000153	Tech Company	8,0600	22,1700	15,5500	1,4100	2,2200	49,4100
2012	Tech	456	10,30000019	Tech Company	13,3300	10,9900	11,9700	11,4100	0,2700	47,9700
2012	Entertainment	444	4,369999886	Non-Tech Company	19,1300	5,0400	19,4500	7,3900	9,6500	60,6600
2012	Tech	468	6,730000019	Tech Company	4,2500	15,6600	8,1800	0,9400	5,4700	34,5000
2012	Manufacturing	417	3,339999914	Non-Tech Company	15,6600	19,4800	5,0500	14,6000	6,2200	61,0100
2012	Retail	495	2,430000067	Non-Tech Company	34,2300	7,0100	12,5700	10,2100	2,2700	66,2900
2012	Manufacturing	466	1,350000024	Non-Tech Company	23,9300	11,4300	5,1500	9,8300	2,1900	52,5300
2012	Financial Services	453	1	Non-Tech Company	13,9500	4,3300	15,7700	2,9000	4,8400	41,7900

2012	Manufacturing	428	3,619999886	Non-Tech Company	18,1300	15,3100	19,8400	3,5100	11,9400	68,7300
2012	Tech	407	7,199999809	Tech Company	17,4200	19,6900	8,2600	9,3700	5,3100	60,0500
2012	Financial Services	454	3,019999981	Non-Tech Company	21,6800	3,9400	2,8600	5,8100	5,8300	40,1200
2012	Tech	448	7,960000038	Tech Company	15,1200	6,3200	14,8200	9,2300	3,7900	49,2800
2012	Manufacturing	476	3,450000048	Non-Tech Company	15,3300	10,3500	12,1100	2,6300	7,0800	47,5000
2012	Tech	434	5,619999886	Tech Company	5,7500	8,4800	9,7400	12,4100	1,8200	38,2000
2012	Retail	459	3,849999905	Non-Tech Company	21,4600	11,6000	4,9300	9,0100	1,1500	48,1500
2012	Tech	403	5,809999943	Tech Company	15,4000	12,5000	10,7100	2,6400	0,8100	42,0600
2012	Financial Services	489	3,660000086	Non-Tech Company	21,5400	13,5200	14,7200	8,0500	7,8400	65,6700
2012	Retail	479	2,289999962	Non-Tech Company	19,3700	29,0400	13,8200	1,6300	5,4700	69,3300
2012	Entertainment	484	2,579999924	Non-Tech Company	20,8200	9,5800	11,9000	4,0400	12,1500	58,4900
2012	Education	414	2,690000057	Non-Tech Company	22,2700	5,7700	13,9500	4,2300	4,7400	50,9600
2012	Manufacturing	458	3,339999914	Non-Tech Company	10,9800	3,5800	16,0700	10,2500	9,4100	50,2900
2012	Financial Services	471	3,75	Non-Tech Company	9,6500	23,4500	13,3200	4,8000	10,4300	61,6500
2012	Financial Services	499	3,660000086	Non-Tech Company	16,8700	7,0700	20,2200	9,3300	6,4400	59,9300
2012	Entertainment	480	4,110000134	Non-Tech Company	20,5100	15,3700	6,2600	11,6200	4,5300	58,2900
2012	Manufacturing	446	3,910000086	Non-Tech Company	19,6100	26,8000	11,8900	1,0700	8,5700	67,9400
2012	Entertainment	445	3,230000019	Non-Tech Company	22,3900	8,1600	9,1300	4,3100	0,9000	44,8900
2012	Tech	439	6,079999924	Tech Company	14,2300	7,4500	14,5200	7,2200	3,2600	46,6800
2012	Retail	474	3,50999999	Non-Tech Company	20,5600	27,9800	16,8400	9,0100	4,7200	79,1100
2012	Financial Services	441	2,579999924	Non-Tech Company	12,8900	28,3500	9,7700	12,4700	6,9900	70,4700
2012	Financial Services	467	3,670000076	Non-Tech Company	21,0900	7,0200	18,1800	9,1400	3,9600	59,3900
2012	Entertainment	469	3,579999924	Non-Tech Company	17,3800	11,1800	20,6900	7,2500	5,3200	61,8200
2012	Financial Services	451	2,74000001	Non-Tech Company	18,3200	25,7700	6,0400	11,9500	2,0200	64,1000

2012	Tech	405	5,639999866	Tech Company	12,4000	22,6100	12,5700	0,9300	4,6100	53,1200
2012	Tech	408	3,660000086	Tech Company	9,9200	20,9000	13,6000	6,1400	2,2600	52,8200
2012	Entertainment	496	3,180000067	Non-Tech Company	12,4600	6,8300	11,6900	5,3200	4,1100	40,4100
2012	Entertainment	457	3,319999933	Non-Tech Company	13,7700	5,8000	14,3200	7,3400	7,7800	49,0100
2012	Retail	465	2,24000001	Non-Tech Company	18,2700	5,1100	12,1800	9,3300	6,6000	51,4900
2012	Financial Services	421	1,960000038	Non-Tech Company	19,5600	30,7800	15,4600	12,0500	4,3300	82,1800
2012	Tech	481	6,659999847	Tech Company	9,6000	17,9600	0,2600	12,6800	1,5000	42,0000
2012	Manufacturing	449	3,109999895	Non-Tech Company	27,4800	13,8900	3,6300	6,3700	1,8200	53,1900
2012	Financial Services	462	3,220000029	Non-Tech Company	14,1000	9,7500	19,2600	4,4600	11,4900	59,0600
2012	Tech	409	8,729999542	Tech Company	17,7100	17,6400	13,4300	9,2100	2,0300	60,0200
2012	Retail	498	3,440000057	Non-Tech Company	17,0700	11,2200	9,6600	3,5200	2,8500	44,3200
2012	Tech	402	6,480000019	Tech Company	9,2700	3,0100	13,0600	0,8700	1,9400	28,1500
2012	Entertainment	416	4,199999809	Non-Tech Company	14,8600	15,7800	17,2600	6,1100	10,9500	64,9600
2012	Tech	429	7,179999828	Tech Company	12,9600	20,7900	11,9000	10,9800	1,3900	58,0200
2012	Financial Services	431	1,169999957	Non-Tech Company	23,0700	29,7400	7,1000	3,5900	9,0600	72,5600
2012	Tech	404	5,849999905	Tech Company	15,0700	7,4600	7,4800	12,9000	3,2300	46,1400
2012	Entertainment	436	2,25	Non-Tech Company	16,0000	15,7300	18,2200	13,4700	7,4800	70,9000
2012	Financial Services	485	2,75999999	Non-Tech Company	10,3300	16,0000	10,2700	1,7800	1,1500	39,5300
2012	Entertainment	420	4,059999943	Non-Tech Company	28,6900	25,4700	7,1400	5,0200	5,7600	72,0800
2012	Retail	486	2,960000038	Non-Tech Company	19,1300	8,9600	15,2500	13,8900	4,7800	62,0100
2012	Tech	438	3,539999962	Tech Company	13,2200	14,3300	6,9500	3,5100	4,9600	42,9700
2012	Tech	437	7,230000019	Tech Company	13,9400	15,4700	7,1000	13,5100	2,2600	52,2800
2012	Tech	425	6,769999981	Tech Company	13,0800	6,9900	2,7100	13,7900	2,9800	39,5500
2012	Financial Services	475	3,119999886	Non-Tech Company	20,7100	20,8100	11,3300	7,8800	3,0500	63,7800
2012	Tech	500	8,180000305	Tech Company	7,0200	7,2600	10,5500	13,2200	1,3800	39,4300
2012	Retail	461	2,970000029	Non-Tech Company	22,5700	3,0200	18,1800	11,2900	7,3700	62,4300

2012	Retail	418	0,649999976	Non-Tech Company	18,2700	21,2700	10,0800	4,2900	2,7400	56,6500
2012	Financial Services	455	3,710000038	Non-Tech Company	23,7100	19,7100	14,4600	7,3300	2,9800	68,1900
2012	Financial Services	472	1,710000038	Non-Tech Company	23,7900	16,8500	19,5400	14,8700	4,4500	79,5000
2012	Manufacturing	427	3,470000029	Non-Tech Company	25,0700	25,3300	3,0800	8,5700	10,9300	72,9800
2012	Retail	490	2,539999962	Non-Tech Company	27,6600	27,4200	2,4100	1,2800	0,4700	59,2400
2012	Manufacturing	463	3,059999943	Non-Tech Company	18,9600	22,0600	4,9200	15,0100	5,5000	66,4500
2012	Entertainment	452	4,329999924	Non-Tech Company	13,6600	17,0200	14,4800	4,2800	6,4500	55,8900
2012	Tech	433	5,289999962	Tech Company	20,0500	4,8900	5,4400	6,8500	3,2200	40,4500
2012	Tech	410	6,980000019	Tech Company	7,5800	9,5900	2,4200	6,1200	3,8000	29,5100
2012	Tech	494	5,860000134	Tech Company	11,1900	17,4000	11,6800	3,8700	1,8700	46,0100
2012	Financial Services	435	2,640000105	Non-Tech Company	28,3500	16,7900	14,1700	10,4800	5,4100	75,2000
2012	Financial Services	440	3,849999905	Non-Tech Company	19,2000	16,4700	9,0400	11,6000	4,1700	60,4800
2012	Retail	422	3,200000048	Non-Tech Company	16,6600	17,6200	9,6900	4,6000	2,7700	51,3400
2012	Retail	478	1,429999948	Non-Tech Company	19,8500	25,6400	16,5100	6,2700	0,0500	68,3200
2012	Entertainment	426	3,029999971	Non-Tech Company	23,9900	22,0000	10,5200	14,5500	10,6400	81,7000
2012	Financial Services	473	3,74000001	Non-Tech Company	15,8100	18,2000	11,3800	3,8200	0,5100	49,7200
2012	Financial Services	460	1,919999957	Non-Tech Company	21,3000	12,9600	20,0000	6,4100	7,0100	67,6800
2012	Financial Services	432	2,690000057	Non-Tech Company	21,5700	21,5000	12,0800	4,9600	11,3300	71,4400
2012	Retail	443	2,980000019	Non-Tech Company	12,1600	26,9800	4,8300	3,3900	4,9400	52,3000
2012	Tech	430	5,380000114	Tech Company	22,4800	15,3200	13,1100	11,6000	4,3600	66,8700
2012	Tech	401	7,289999962	Tech Company	15,5800	10,8600	7,5700	7,5600	0,4800	42,0500
2012	Entertainment	493	3,279999971	Non-Tech Company	13,8100	15,8600	5,3900	4,7700	11,8100	51,6400
2012	Retail	488	2,970000029	Non-Tech Company	22,3100	4,4400	15,2200	3,3400	0,3500	45,6600
2013	Entertainment	526	2,180000067	Non-Tech Company	14,6500	17,8700	14,6400	3,0500	5,3900	55,6000

2013	Manufacturing	557	3,24000001	Non-Tech Company	14,6000	18,1500	4,9000	2,0300	10,5900	50,2700
2013	Financial Services	598	3,190000057	Non-Tech Company	13,8300	20,7400	13,8400	6,0300	3,3900	57,8300
2013	Education	551	1,75	Non-Tech Company	21,8000	21,8200	12,7300	15,6700	11,8800	83,9000
2013	Tech	504	5,289999962	Tech Company	16,8300	17,4600	14,0600	7,0800	1,7500	57,1800
2013	Financial Services	513	3,779999971	Non-Tech Company	17,8200	5,1200	12,4000	13,4000	1,2400	49,9800
2013	Education	529	1,909999967	Non-Tech Company	21,3900	7,7200	8,8700	10,8800	6,6800	55,5400
2013	Entertainment	536	3,779999971	Non-Tech Company	18,8400	17,2500	7,8600	11,3000	9,1400	64,3900
2013	Tech	510	4,059999943	Tech Company	15,9800	22,5500	12,5800	6,6300	3,3100	61,0500
2013	Entertainment	524	4,190000057	Non-Tech Company	30,0800	28,3300	5,4100	9,6800	5,4200	78,9200
2013	Retail	571	2,869999886	Non-Tech Company	18,5000	5,5600	9,4400	11,5700	12,8500	57,9200
2013	Tech	583	6,619999886	Tech Company	19,5000	4,0400	1,7600	5,3600	1,8300	32,4900
2013	Financial Services	523	1,870000005	Non-Tech Company	15,8500	30,8200	6,9300	13,5200	3,0300	70,1500
2013	Retail	575	3,140000105	Non-Tech Company	25,3100	19,4900	7,1400	1,2200	11,9000	65,0600
2013	Entertainment	596	2,230000019	Non-Tech Company	27,5200	21,1100	9,1500	12,8000	1,8100	72,3900
2013	Entertainment	540	1,970000029	Non-Tech Company	28,4300	24,3500	11,0500	9,3900	10,0800	83,3000
2013	Education	580	3,690000057	Non-Tech Company	22,6300	23,1100	8,7100	13,2700	7,6800	75,4000
2013	Manufacturing	565	3,25	Non-Tech Company	17,6900	22,4100	2,5100	12,2200	5,6600	60,4900
2013	Manufacturing	550	3,710000038	Non-Tech Company	15,0700	7,5600	19,5500	6,3400	1,6900	50,2100
2013	Manufacturing	544	3,25	Non-Tech Company	15,6300	25,9200	20,9400	10,7300	7,5100	80,7300
2013	Tech	589	4,389999866	Tech Company	10,8500	18,6700	13,0500	2,9900	1,5100	47,0700
2013	Entertainment	595	3,029999971	Non-Tech Company	17,9700	13,5500	16,9800	1,8900	12,6500	63,0400
2013	Retail	548	3,079999924	Non-Tech Company	16,5600	14,7200	3,5800	10,1000	10,0800	55,0400
2013	Manufacturing	599	3,789999962	Non-Tech Company	19,9800	16,3700	20,2400	15,1200	1,4300	73,1400
2013	Tech	577	5,650000095	Tech Company	12,6200	5,7100	12,2700	12,7300	5,8600	49,1900

2013	Education	516	3,029999971	Non-Tech Company	15,0000	29,0400	19,4500	9,2200	7,5100	80,2200
2013	Tech	587	5,980000019	Tech Company	14,4500	20,5700	13,8500	0,7500	0,6600	50,2800
2013	Manufacturing	547	3,25999999	Non-Tech Company	23,5900	10,6400	13,3000	15,1900	3,6300	66,3500
2013	Financial Services	593	2,589999914	Non-Tech Company	18,7200	13,4400	12,2000	8,3400	10,1000	62,8000
2013	Financial Services	527	2,390000105	Non-Tech Company	22,4000	27,5100	7,7400	12,6800	0,4600	70,7900
2013	Manufacturing	517	3,950000048	Non-Tech Company	24,8500	30,9000	5,0600	7,0800	6,6600	74,5500
2013	Tech	501	3,74000001	Tech Company	15,6800	11,2800	0,2600	8,9000	4,6600	40,7800
2013	Entertainment	584	3,369999886	Non-Tech Company	15,5300	11,5500	18,1000	9,7500	7,4500	62,3800
2013	Retail	519	3,369999886	Non-Tech Company	21,2900	17,5500	18,2200	7,1100	5,4700	69,6400
2013	Financial Services	600	1,320000052	Non-Tech Company	10,4900	3,9300	3,3800	3,6500	10,3300	31,7800
2013	Financial Services	564	2,480000019	Non-Tech Company	26,5100	22,2600	13,3100	9,9900	5,7800	77,8500
2013	Retail	518	2,369999886	Non-Tech Company	26,5500	13,3400	16,1400	15,1000	5,5000	76,6300
2013	Manufacturing	558	3,180000067	Non-Tech Company	10,9000	12,2600	13,9400	7,4200	9,3400	53,8600
2013	Manufacturing	521	3,599999905	Non-Tech Company	15,7800	26,2700	17,5900	3,4100	8,4000	71,4500
2013	Manufacturing	528	4,039999962	Non-Tech Company	15,9300	30,9700	2,5800	12,4600	5,5000	67,4400
2013	Financial Services	594	2,25	Non-Tech Company	20,0000	28,8600	9,3200	13,4300	9,9500	81,5600
2013	Financial Services	553	2,410000086	Non-Tech Company	26,4100	20,9100	17,8900	4,8000	0,0100	70,0200
2013	Financial Services	573	1,909999967	Non-Tech Company	21,1900	13,4600	15,8700	14,2800	0,0900	64,8900
2013	Manufacturing	591	2,119999886	Non-Tech Company	19,4100	3,4900	14,3400	10,0600	3,6500	50,9500
2013	Financial Services	578	2,140000105	Non-Tech Company	16,1900	20,0500	13,9500	9,8500	8,5700	68,6100
2013	Retail	537	3,079999924	Non-Tech Company	14,0300	21,9000	2,1100	14,3600	8,2100	60,6100
2013	Tech	508	6,03000021	Tech Company	11,4300	20,4800	1,0600	12,6100	2,8200	48,4000
2013	Entertainment	556	2,380000114	Non-Tech Company	16,3200	12,5900	9,3800	12,8600	0,6300	51,7800

2013	Manufacturing	559	2,970000029	Non-Tech Company	13,8900	29,8300	5,4300	15,1100	2,3400	66,6000
2013	Financial Services	562	4,28000021	Non-Tech Company	19,8200	20,5500	5,4700	2,9500	3,9200	52,7100
2013	Financial Services	563	3,680000067	Non-Tech Company	23,0500	21,2700	7,4800	2,1000	2,6500	56,5500
2013	Entertainment	572	3,700000048	Non-Tech Company	20,2500	21,5400	18,2900	5,5900	8,9100	74,5800
2013	Financial Services	597	2,359999895	Non-Tech Company	24,8300	13,0300	3,7300	5,5500	10,9800	58,1200
2013	Manufacturing	560	4,809999943	Non-Tech Company	18,6700	14,7000	10,3500	12,1000	4,9400	60,7600
2013	Education	582	3,480000019	Non-Tech Company	12,6300	29,4800	17,2700	14,4800	10,4400	84,3000
2013	Education	538	4,309999943	Non-Tech Company	23,7100	14,1000	16,7800	12,7900	7,4500	74,8300
2013	Education	520	4,03000021	Non-Tech Company	20,1900	18,2900	10,7700	13,7200	9,3300	72,3000
2013	Manufacturing	568	3,99000001	Non-Tech Company	13,1500	29,1300	12,4300	4,5300	6,6000	65,8400
2013	Financial Services	549	2,460000038	Non-Tech Company	17,9500	27,8000	18,1000	6,8500	4,3100	75,0100
2013	Manufacturing	567	2,809999943	Non-Tech Company	21,3400	17,5300	8,8600	2,6500	1,6600	52,0400
2013	Tech	512	6,929999828	Tech Company	9,8000	18,9900	9,1500	8,9900	1,1500	48,0800
2013	Retail	552	4,210000038	Non-Tech Company	16,7500	28,5900	17,4200	14,5600	5,8700	83,1900
2013	Retail	561	4,059999943	Non-Tech Company	16,2500	19,9500	17,0100	4,5200	5,5600	63,2900
2013	Tech	511	4,800000191	Tech Company	7,6600	4,5200	0,4600	7,6300	1,6600	21,9300
2013	Tech	502	4,889999866	Tech Company	10,4100	5,1800	2,8000	9,0400	4,4600	31,8900
2013	Entertainment	592	3,589999914	Non-Tech Company	21,3300	30,3800	2,9300	11,4200	3,4000	69,4600
2013	Entertainment	585	2,609999895	Non-Tech Company	13,2400	25,2400	11,5000	10,9200	12,5700	73,4700
2013	Retail	531	2,829999924	Non-Tech Company	26,1200	11,5000	17,5900	13,0500	3,5700	71,8300
2013	Education	588	2,849999905	Non-Tech Company	19,4000	5,5800	19,4800	8,4600	6,7800	59,7000
2013	Tech	506	6,960000038	Tech Company	13,1100	18,3700	3,2300	12,4500	4,1900	51,3500
2013	Entertainment	515	2,410000086	Non-Tech Company	22,4100	7,5700	11,5100	14,5500	8,2400	64,2800

2013	Education	581	5,150000095	Non-Tech Company	12,2600	9,7500	13,5800	2,3100	8,4100	46,3100
2013	Entertainment	543	2,609999895	Non-Tech Company	19,0800	30,8700	3,4500	8,3600	3,8800	65,6400
2013	Tech	576	6,480000019	Tech Company	11,0900	17,1300	0,2600	5,9000	4,9900	39,3700
2013	Tech	503	3,089999914	Tech Company	10,5700	20,6900	10,7100	4,5300	4,6900	51,1900
2013	Entertainment	555	4,230000019	Non-Tech Company	26,5900	29,9100	18,3200	12,1800	4,6700	91,6700
2013	Education	530	2,329999924	Non-Tech Company	24,7000	16,0900	2,9100	15,9200	12,9100	72,5300
2013	Retail	590	3,50999999	Non-Tech Company	14,6300	8,8700	5,1300	7,4200	9,6700	45,7200
2013	Tech	507	7,119999886	Tech Company	18,0500	20,9100	10,4600	1,9200	4,4500	55,7900
2013	Retail	542	3,150000095	Non-Tech Company	8,7600	20,2700	12,3900	7,6300	2,3400	51,3900
2013	Education	533	5,079999924	Non-Tech Company	19,2600	22,9400	7,7500	1,5100	5,1600	56,6200
2013	Entertainment	532	3,369999886	Non-Tech Company	17,8800	11,7500	6,9300	14,3000	3,4500	54,3100
2013	Entertainment	535	2,710000038	Non-Tech Company	18,0400	25,5200	6,6900	6,7700	9,8900	66,9100
2013	Retail	546	2,359999895	Non-Tech Company	20,7300	4,8400	8,3800	8,8300	12,0900	54,8700
2013	Tech	566	7,230000019	Tech Company	11,4900	14,3000	12,4100	9,3700	0,7000	48,2700
2013	Tech	541	4,539999962	Tech Company	15,7900	14,8500	14,3500	12,5300	2,3000	59,8200
2013	Tech	525	5,590000153	Tech Company	12,3100	19,9900	6,4000	1,4900	4,6900	44,8800
2013	Manufacturing	574	3,75	Non-Tech Company	15,6000	13,3200	16,4600	5,4300	2,8900	53,7000
2013	Entertainment	579	3,309999943	Non-Tech Company	19,0500	9,1800	15,6700	13,8600	6,1900	63,9500
2013	Tech	569	3,799999952	Tech Company	15,8500	5,0500	7,1000	10,9800	2,4300	41,4100
2013	Tech	509	4,289999962	Tech Company	10,2800	5,4200	6,5900	5,8100	0,9500	29,0500
2013	Tech	586	5,510000229	Tech Company	17,9400	7,4300	8,6100	7,6700	3,1200	44,7700
2013	Entertainment	545	3,369999886	Non-Tech Company	18,0900	6,1500	5,3200	15,2500	9,6500	54,4600
2013	Tech	539	4,170000076	Tech Company	11,8700	5,7600	5,0400	9,4900	5,5400	37,7000
2013	Manufacturing	534	2,690000057	Non-Tech Company	23,8900	18,2800	4,2500	14,7400	12,9600	74,1200
2013	Education	514	2,569999933	Non-Tech Company	25,9300	19,7500	19,9900	11,4900	2,2400	79,4000

2013	Retail	522	2,680000067	Non-Tech Company	17,1900	12,6700	14,6800	9,3400	7,5700	61,4500
2013	Tech	505	6,739999771	Tech Company	13,4000	3,0500	4,4700	3,6500	2,0500	26,6200
2013	Financial Services	570	2,869999886	Non-Tech Company	13,8900	23,2900	6,9600	8,2100	2,1300	54,4800
2013	Entertainment	554	4,090000153	Non-Tech Company	25,2900	15,2400	3,6900	9,1200	8,2700	61,6100
2014	Financial Services	686	2,630000114	Non-Tech Company	19,2400	11,7700	13,8900	13,6900	5,8300	64,4200
2014	Tech	610	6,510000229	Tech Company	12,2200	21,7400	2,6400	0,5100	4,8600	41,9700
2014	Entertainment	628	3,529999971	Non-Tech Company	22,9800	19,7700	3,8000	13,1400	8,6800	68,3700
2014	Tech	603	5,130000114	Tech Company	17,1800	22,1400	3,1800	7,5600	0,2800	50,3400
2014	Manufacturing	623	2,410000086	Non-Tech Company	32,6900	25,0100	13,2800	12,7500	10,6400	94,3700
2014	Tech	604	6,46999979	Tech Company	15,0500	7,6600	11,2100	12,8900	5,4500	52,2600
2014	Entertainment	669	3,609999895	Non-Tech Company	21,4300	27,7000	10,3500	2,3000	12,9500	74,7300
2014	Retail	616	2,180000067	Non-Tech Company	14,7700	8,5300	3,0600	1,0500	9,7600	37,1700
2014	Retail	692	4,429999828	Non-Tech Company	28,0000	25,0200	6,2600	12,4700	4,7500	76,5000
2014	Tech	605	7,610000134	Tech Company	18,2600	10,3500	15,9800	8,9200	4,4300	57,9400
2014	Manufacturing	656	4,230000019	Non-Tech Company	11,9600	10,0000	18,3800	11,9500	8,3900	60,6800
2014	Entertainment	697	3,559999943	Non-Tech Company	27,5700	8,1200	5,6000	3,4400	7,8600	52,5900
2014	Financial Services	667	2,50999999	Non-Tech Company	4,4100	6,0800	12,1900	4,0600	3,9000	30,6400
2014	Tech	607	5,099999905	Tech Company	13,3700	9,0100	1,1000	1,7700	5,2000	30,4500
2014	Tech	625	6,449999809	Tech Company	11,1700	22,7200	1,4400	9,8300	5,4100	50,5700
2014	Retail	681	3,839999914	Non-Tech Company	16,9600	26,2200	19,0400	12,3800	2,3700	76,9700
2014	Financial Services	654	4,510000229	Non-Tech Company	8,8700	20,5600	13,3300	3,7100	1,6000	48,0700
2014	Retail	678	3,849999905	Non-Tech Company	15,3400	4,5200	20,0400	2,8800	4,1100	46,8900
2014	Retail	634	2,779999971	Non-Tech Company	20,5800	27,8200	12,1000	7,5200	0,7800	68,8000
2014	Financial Services	653	2,390000105	Non-Tech Company	20,9600	13,4600	9,7600	5,3300	12,7800	62,2900

2014	Entertainment	698	2,720000029	Non-Tech Company	24,9600	23,3200	11,8600	8,3000	9,7700	78,2100
2014	Financial Services	668	3,970000029	Non-Tech Company	4,5700	6,3100	5,8800	2,4900	1,4800	20,7300
2014	Financial Services	652	2,970000029	Non-Tech Company	24,0800	10,8900	11,9800	4,2200	3,9300	55,1000
2014	Entertainment	619	2,930000067	Non-Tech Company	24,2100	5,7000	6,8000	15,3700	3,7000	55,7800
2014	Entertainment	640	3,390000105	Non-Tech Company	17,3800	23,3000	18,4800	6,1400	3,5400	68,8400
2014	Retail	626	2,400000095	Non-Tech Company	21,7200	7,3500	3,6100	4,8300	6,2500	43,7600
2014	Manufacturing	693	3,279999971	Non-Tech Company	16,0400	9,2900	2,6100	1,9100	3,6600	33,5100
2014	Entertainment	643	2,900000095	Non-Tech Company	14,1300	9,8300	18,0800	9,1000	3,7800	54,9200
2014	Retail	696	3,00999999	Non-Tech Company	14,9700	26,7100	5,2700	11,1100	4,4600	62,5200
2014	Entertainment	618	3,690000057	Non-Tech Company	12,0100	6,1100	12,7400	8,3300	1,5200	40,7100
2014	Entertainment	621	3,210000038	Non-Tech Company	11,2700	22,5800	5,8500	7,1400	4,9800	51,8200
2014	Tech	609	2,549999952	Tech Company	8,3100	6,3500	13,6600	7,3700	5,3600	41,0500
2014	Retail	638	3,869999886	Non-Tech Company	18,3900	23,5000	15,2000	5,0800	10,5200	72,6900
2014	Manufacturing	644	4,260000229	Non-Tech Company	26,8600	4,7800	14,6300	7,8000	9,4300	63,5000
2014	Financial Services	632	3,619999886	Non-Tech Company	29,4000	21,0300	12,9400	6,1800	11,9800	81,5300
2014	Manufacturing	646	3,190000057	Non-Tech Company	18,0000	16,6000	16,0400	1,5400	0,4500	52,6300
2014	Entertainment	629	3,180000067	Non-Tech Company	19,7800	18,1200	3,3500	6,9400	9,7600	57,9500
2014	Manufacturing	660	3,869999886	Non-Tech Company	22,8000	17,5100	4,6300	6,3500	5,8800	57,1700
2014	Manufacturing	658	4,170000076	Non-Tech Company	23,7800	3,1800	3,0600	13,9800	12,2000	56,2000
2014	Manufacturing	666	3,450000048	Non-Tech Company	26,0900	9,4800	17,0100	2,9900	5,4000	60,9700
2014	Retail	645	2,480000019	Non-Tech Company	19,3900	3,0500	2,1300	14,5200	8,1200	47,2100
2014	Tech	649	39,40999985	Tech Company	17,8500	19,2300	2,7800	3,2300	5,6300	48,7200
2014	Tech	601	5,010000229	Tech Company	23,2400	19,0500	0,8200	11,6800	5,7500	60,5400

2014	Financial Services	641	3,349999905	Non-Tech Company	17,2800	10,6100	6,6200	1,5100	11,5000	47,5200
2014	Tech	608	5,46999979	Tech Company	11,4100	8,4500	3,3500	7,4100	4,6900	35,3100
2014	Tech	655	5,050000191	Tech Company	9,5300	22,1500	8,6400	0,3300	4,8200	45,4700
2014	Financial Services	615	2,50999999	Non-Tech Company	35,9700	18,3100	15,2800	1,9600	1,3900	72,9100
2014	Tech	606	5,210000038	Tech Company	12,5600	5,6500	10,3700	12,5200	0,2700	41,3700
2014	Retail	670	2,880000114	Non-Tech Company	12,5800	21,2900	7,9100	8,2200	2,1300	52,1300
2014	Retail	673	4,329999924	Non-Tech Company	22,1300	6,3200	15,1000	1,9200	8,4100	53,8800
2014	Retail	676	3,440000057	Non-Tech Company	18,5700	19,7500	19,1300	2,6300	12,3500	72,4300
2014	Manufacturing	687	4,309999943	Non-Tech Company	18,9600	27,3600	2,9300	3,9500	0,4000	53,6000
2014	Retail	674	3,859999895	Non-Tech Company	18,1100	19,2500	4,4700	15,7100	9,4500	66,9900
2014	Financial Services	675	3,170000076	Non-Tech Company	15,8700	10,2200	3,0100	1,4200	1,0400	31,5600
2014	Retail	684	2,210000038	Non-Tech Company	23,0800	13,8200	15,0800	15,4100	0,8000	68,1900
2014	Retail	695	2,109999895	Non-Tech Company	20,0400	23,1700	4,9100	4,2400	13,0000	65,3600
2014	Entertainment	630	3,309999943	Non-Tech Company	21,7700	12,5000	5,2600	11,2700	1,6900	52,4900
2014	Financial Services	614	3,069999933	Non-Tech Company	22,2200	15,0300	7,7600	6,3100	4,8600	56,1800
2014	Retail	663	3,230000019	Non-Tech Company	5,2200	8,0300	17,1700	15,2700	0,4000	46,0900
2014	Education	635	3,019999981	Non-Tech Company	16,8600	18,3500	17,7500	2,2800	7,4600	62,7000
2014	Tech	679	6,710000038	Tech Company	15,9200	15,2900	9,7300	7,3000	3,9200	52,1600
2014	Manufacturing	700	2,829999924	Non-Tech Company	18,0100	22,2400	15,9400	3,8700	6,8200	66,8800
2014	Financial Services	682	1,889999986	Non-Tech Company	15,6100	17,0100	10,2500	8,5200	8,1800	59,5700
2014	Manufacturing	650	1,919999957	Non-Tech Company	26,7800	23,0400	11,9200	8,4700	11,1400	81,3500
2014	Financial Services	689	2,210000038	Non-Tech Company	22,9400	6,1900	12,7500	13,6000	5,1100	60,5900
2014	Tech	691	7,099999905	Tech Company	12,5500	15,5200	6,3000	2,2300	3,2400	39,8400
2014	Education	639	3,789999962	Non-Tech Company	12,9100	16,2100	19,0800	7,3200	3,7100	59,2300

2014	Manufacturing	661	3,569999933	Non-Tech Company	17,1900	6,7200	11,3600	13,6300	0,7400	49,6400
2014	Financial Services	624	3,75999999	Non-Tech Company	15,1100	4,4800	3,7300	2,1400	0,0000	25,4600
2014	Entertainment	651	2,970000029	Non-Tech Company	21,4700	5,9800	7,1300	8,0500	10,3000	52,9300
2014	Education	620	2,950000048	Non-Tech Company	23,1600	7,0600	8,1300	5,1300	3,2500	46,7300
2014	Retail	680	2,730000019	Non-Tech Company	18,2900	9,6500	9,9200	2,0400	12,1900	52,0900
2014	Financial Services	677	2,869999886	Non-Tech Company	23,5900	21,9800	11,9800	2,7600	11,5300	71,8400
2014	Financial Services	664	2,019999981	Non-Tech Company	14,9300	17,1100	14,6400	1,9100	0,5100	49,1000
2014	Manufacturing	637	3,130000114	Non-Tech Company	12,1700	9,7500	10,1800	6,5400	4,1300	42,7700
2014	Financial Services	642	2,789999962	Non-Tech Company	22,3600	5,5600	18,5800	3,1000	7,7900	57,3900
2014	Entertainment	636	3,039999962	Non-Tech Company	16,0800	12,7400	17,7300	3,5800	4,0600	54,1900
2014	Entertainment	665	3,710000038	Non-Tech Company	15,3600	12,7500	18,4800	11,7700	2,8400	61,2000
2014	Financial Services	647	3,150000095	Non-Tech Company	21,9500	9,1800	5,0300	6,6700	11,3500	54,1800
2014	Retail	613	0,790000021	Non-Tech Company	18,5500	29,7000	14,1700	11,7100	10,0000	84,1300
2014	Tech	683	9,170000076	Tech Company	14,3700	14,7600	3,9800	11,4800	1,8700	46,4600
2014	Manufacturing	672	3,359999895	Non-Tech Company	22,4900	22,8600	15,1400	3,8200	12,3500	76,6600
2014	Tech	694	6,21999979	Tech Company	23,0000	19,1000	12,3100	4,4100	2,2900	61,1100
2014	Tech	611	6,769999981	Tech Company	6,9800	21,5400	9,3900	7,9900	0,3400	46,2400
2014	Tech	602	5,880000114	Tech Company	9,6700	8,4200	7,7600	13,9800	1,3300	41,1600
2014	Tech	671	5,449999809	Tech Company	16,1800	11,1000	8,2700	10,9600	0,6800	47,1900
2014	Tech	627	4,789999962	Tech Company	18,8500	20,0000	11,6600	7,6600	4,7600	62,9300
2014	Manufacturing	685	3,660000086	Non-Tech Company	17,6000	24,0300	2,1800	6,0300	3,6700	53,5100
2014	Tech	612	3,569999933	Tech Company	15,9900	9,1400	7,8800	8,7800	2,1800	43,9700
2014	Manufacturing	662	1,789999962	Non-Tech Company	15,3100	7,0600	16,0100	3,5400	11,4400	53,3600
2014	Education	617	2,880000114	Non-Tech Company	21,3800	23,6500	6,7100	9,8200	8,4500	70,0100

2014	Retail	657	1,799999952	Non-Tech Company	17,0700	25,6900	9,8400	5,4600	10,5500	68,6100
2014	Retail	688	3,069999933	Non-Tech Company	32,3700	10,0900	5,5900	12,6900	1,7000	62,4400
2014	Manufacturing	633	2,119999886	Non-Tech Company	5,9300	28,1900	14,6500	6,1700	12,5300	67,4700
2014	Education	690	4,03000021	Non-Tech Company	18,9000	25,4300	16,1200	4,0300	9,1200	73,6000
2014	Tech	631	5,550000191	Tech Company	13,2500	22,4400	6,3300	13,4100	3,5100	58,9400
2014	Retail	699	3,619999886	Non-Tech Company	23,4400	3,9200	3,6900	9,1400	9,6900	49,8800
2014	Entertainment	622	2,319999933	Non-Tech Company	11,8400	9,4600	7,1400	12,4800	5,7000	46,6200
2014	Education	648	2,480000019	Non-Tech Company	20,8900	30,0600	4,3400	7,6200	6,6200	69,5300
2014	Manufacturing	659	2,609999895	Non-Tech Company	20,0700	28,8600	5,3800	6,5100	8,2800	69,1000
2015	Manufacturing	792	3,809999943	Non-Tech Company	19,3600	12,2600	16,6400	6,6400	0,3900	55,2900
2015	Retail	786	2,789999962	Non-Tech Company	18,4700	19,6000	15,9200	12,5000	7,3800	73,8700
2015	Education	784	3,480000019	Non-Tech Company	9,2500	16,6000	3,2700	3,2300	3,0800	35,4300
2015	Retail	796	2,930000067	Non-Tech Company	22,1200	23,1200	8,3100	8,1200	6,6000	68,2700
2015	Entertainment	721	3,579999924	Non-Tech Company	26,6500	20,5300	2,2000	14,6100	6,4900	70,4800
2015	Financial Services	783	3,589999914	Non-Tech Company	28,2800	26,6900	20,0900	10,7300	6,7300	92,5200
2015	Education	788	1,940000057	Non-Tech Company	24,3300	11,7500	12,7600	3,6900	6,0300	58,5600
2015	Financial Services	732	2,970000029	Non-Tech Company	21,3200	14,9700	3,4700	10,2400	2,6400	52,6400
2015	Tech	707	4,510000229	Tech Company	18,4000	6,1900	12,6300	1,7900	1,8000	40,8100
2015	Retail	747	3,089999914	Non-Tech Company	12,7600	22,0300	18,0400	11,7200	6,0100	70,5600
2015	Manufacturing	780	3,579999924	Non-Tech Company	11,8200	10,3600	8,3000	14,1000	0,1700	44,7500
2015	Tech	750	5,710000038	Tech Company	14,5100	7,2000	10,2800	3,3800	3,9700	39,3400
2015	Manufacturing	767	3,00999999	Non-Tech Company	15,9800	12,8800	8,2200	7,7200	1,2400	46,0400
2015	Financial Services	779	2,690000057	Non-Tech Company	26,3000	6,8600	2,6900	3,5000	5,2300	44,5800

2015	Tech	701	5,96999979	Tech Company	15,9000	14,5600	9,6600	5,0500	3,4800	48,6500
2015	Tech	702	6,039999962	Tech Company	12,4100	21,2200	16,4500	7,8800	3,1700	61,1300
2015	Tech	708	4,110000134	Tech Company	13,3800	19,2200	11,8200	2,2800	3,3400	50,0400
2015	Manufacturing	730	3,119999886	Non-Tech Company	25,7900	14,7700	11,8700	6,1200	3,5500	62,1000
2015	Entertainment	790	3,089999914	Non-Tech Company	13,1000	11,6900	10,6800	1,8800	1,6400	38,9900
2015	Financial Services	777	3,309999943	Non-Tech Company	22,5900	28,5300	16,6200	3,0600	7,7600	78,5600
2015	Tech	703	5,820000172	Tech Company	19,0200	7,9700	12,0900	3,5200	3,8300	46,4300
2015	Entertainment	770	3,170000076	Non-Tech Company	17,5100	15,0600	10,6100	9,6700	12,9800	65,8300
2015	Tech	713	5,090000153	Tech Company	16,7700	18,0200	16,6400	9,0900	2,8200	63,3400
2015	Entertainment	727	1,679999948	Non-Tech Company	20,9200	24,9400	14,6000	10,5200	1,2700	72,2500
2015	Tech	729	5,03000021	Tech Company	11,9500	9,8600	10,2700	13,9500	1,0800	47,1100
2015	Manufacturing	748	3,130000114	Non-Tech Company	23,9800	28,3500	5,1300	15,1800	6,5400	79,1800
2015	Tech	782	6,639999866	Tech Company	20,0900	6,1100	5,9700	8,4800	0,1300	40,7800
2015	Tech	799	4,739999771	Tech Company	19,7600	5,1100	0,0700	13,1900	1,1300	39,2600
2015	Retail	775	3,450000048	Non-Tech Company	14,2100	27,7500	5,6600	3,5600	3,1200	54,3000
2015	Tech	711	15,18000031	Tech Company	11,1700	16,4700	5,1100	12,8600	3,6300	49,2400
2015	Financial Services	722	3,5	Non-Tech Company	15,3500	4,1800	5,7600	8,1900	11,5800	45,0600
2015	Manufacturing	737	3,380000114	Non-Tech Company	20,2400	4,7100	10,9900	12,7000	12,7700	61,4100
2015	Financial Services	768	3,24000001	Non-Tech Company	12,9600	23,4700	3,9300	4,4300	2,9200	47,7100
2015	Manufacturing	753	2,940000057	Non-Tech Company	16,3200	12,0400	4,9300	15,9300	4,0000	53,2200
2015	Manufacturing	778	3,170000076	Non-Tech Company	11,1800	4,1400	14,2600	11,2300	11,6600	52,4700
2015	Manufacturing	741	3,730000019	Non-Tech Company	26,7100	29,6700	17,6500	6,8400	11,1200	91,9900
2015	Tech	706	4,639999866	Tech Company	12,7400	13,4100	8,8700	9,3600	2,9400	47,3200
2015	Tech	704	8,829999924	Tech Company	14,9300	16,9800	12,2100	1,0900	3,7400	48,9500
2015	Manufacturing	720	2,440000057	Non-Tech Company	16,2200	14,3300	16,6900	15,5900	8,0300	70,8600
2015	Tech	736	5,730000019	Tech Company	13,4100	14,5900	1,2200	4,3000	5,9100	39,4300

2015	Financial Services	754	2,930000067	Non-Tech Company	16,2400	9,3800	10,4000	13,2000	6,2400	55,4600
2015	Retail	740	3,319999933	Non-Tech Company	15,6500	22,2400	10,9700	14,0200	8,0700	70,9500
2015	Retail	793	2,5	Non-Tech Company	11,2300	21,7800	2,8300	5,0700	6,3100	47,2200
2015	Retail	772	3,119999886	Non-Tech Company	27,9700	19,6400	13,0800	2,6100	3,8700	67,1700
2015	Tech	717	6,5	Tech Company	10,4600	16,9800	10,3000	3,1400	1,9000	42,7800
2015	Retail	745	1,190000057	Non-Tech Company	18,8400	29,7900	12,3300	13,6000	8,9900	83,5500
2015	Tech	742	15,10999966	Tech Company	12,8000	11,3300	5,5700	0,7400	0,0500	30,4900
2015	Education	759	4,03000021	Non-Tech Company	12,7800	25,1700	8,0400	2,8800	5,0900	53,9600
2015	Financial Services	725	3,710000038	Non-Tech Company	18,0000	22,6300	4,4900	11,7700	8,3300	65,2200
2015	Tech	757	6,96999979	Tech Company	15,5000	6,8900	15,1500	13,5100	2,7400	53,7900
2015	Manufacturing	739	4,110000134	Non-Tech Company	28,9000	28,3800	4,5500	9,5700	0,9900	72,3900
2015	Entertainment	781	4,380000114	Non-Tech Company	20,0300	18,3000	14,0200	11,8800	3,9900	68,2200
2015	Financial Services	743	2,650000095	Non-Tech Company	17,7400	18,7900	2,7700	13,2400	4,2500	56,7900
2015	Education	762	2,309999943	Non-Tech Company	8,9700	13,3700	14,2600	3,9400	2,3700	42,9100
2015	Manufacturing	744	3,529999971	Non-Tech Company	23,4500	10,8300	13,9000	14,4600	7,6400	70,2800
2015	Retail	746	2,460000038	Non-Tech Company	20,6900	14,9000	8,6500	3,6700	5,5900	53,5000
2015	Education	728	3,170000076	Non-Tech Company	22,6700	9,6100	2,1900	2,5700	5,3100	42,3500
2015	Entertainment	798	3,839999914	Non-Tech Company	15,0900	27,7900	16,8700	5,6700	10,6300	76,0500
2015	Tech	710	5,900000095	Tech Company	18,4100	17,7200	1,9900	11,7200	4,8900	54,7300
2015	Tech	766	5,860000134	Tech Company	12,8800	10,3300	9,1000	2,8400	0,5800	35,7300
2015	Manufacturing	758	3,220000029	Non-Tech Company	14,1000	12,9200	5,3100	3,6000	11,7000	47,6300
2015	Financial Services	718	2,059999943	Non-Tech Company	18,0500	13,2400	4,2700	8,4000	4,8000	48,7600
2015	Financial Services	716	3,069999933	Non-Tech Company	18,4800	21,2900	4,4200	11,1900	4,1800	59,5600
2015	Manufacturing	719	4,570000172	Non-Tech Company	13,8800	22,1700	3,7700	1,3000	2,5800	43,7000

2015	Financial Services	800	3,079999924	Non-Tech Company	13,7600	7,0900	18,2300	15,4500	6,6600	61,1900
2015	Tech	712	7,78000021	Tech Company	15,5900	9,9200	10,5800	10,2500	5,1200	51,4600
2015	Tech	765	4,199999809	Tech Company	22,2000	15,3000	3,8500	11,3800	5,8300	58,5600
2015	Financial Services	761	2,920000076	Non-Tech Company	22,3900	7,3400	12,9100	13,1600	4,9000	60,7000
2015	Retail	774	3,579999924	Non-Tech Company	20,2100	8,6900	3,7700	6,8700	9,2900	48,8300
2015	Retail	756	3,210000038	Non-Tech Company	11,8900	4,1300	18,8300	11,3200	0,2900	46,4600
2015	Retail	733	2,730000019	Non-Tech Company	28,1600	27,8000	4,3300	14,0700	9,9700	84,3300
2015	Retail	795	2,140000105	Non-Tech Company	24,6400	8,0900	3,9800	3,8800	10,6800	51,2700
2015	Financial Services	755	3,680000067	Non-Tech Company	19,5700	9,2500	6,2700	6,1500	6,9300	48,1700
2015	Retail	714	2,829999924	Non-Tech Company	21,3100	10,9300	3,5300	15,9400	6,0400	57,7500
2015	Financial Services	752	3,200000048	Non-Tech Company	30,7900	30,6200	14,4500	5,8500	5,2800	86,9900
2015	Education	724	3,809999943	Non-Tech Company	13,2500	19,2600	6,6200	2,7400	1,0100	42,8800
2015	Entertainment	785	3,339999914	Non-Tech Company	18,5500	17,1300	19,6900	6,8700	11,1300	73,3700
2015	Entertainment	715	2,200000048	Non-Tech Company	16,4700	28,2000	7,5400	6,6800	4,4600	63,3500
2015	Retail	789	3,710000038	Non-Tech Company	18,5500	5,5900	18,4900	13,2100	6,3000	62,1400
2015	Entertainment	769	4,110000134	Non-Tech Company	12,6200	23,5100	16,0900	11,7100	7,8800	71,8100
2015	Financial Services	751	3,660000086	Non-Tech Company	22,3500	9,2800	15,3200	8,8300	0,6700	56,4500
2015	Manufacturing	787	2,460000038	Non-Tech Company	15,5400	11,6900	15,2900	8,0600	0,2400	50,8200
2015	Manufacturing	763	4,019999981	Non-Tech Company	18,5700	21,9200	7,7600	6,6700	10,1700	65,0900
2015	Entertainment	764	3,730000019	Non-Tech Company	25,4900	17,2000	9,5600	10,6900	7,1800	70,1200
2015	Education	731	2,950000048	Non-Tech Company	18,0300	18,3200	15,9100	8,0400	2,1400	62,4400
2015	Tech	709	4,889999866	Tech Company	15,1900	22,9300	14,9500	2,2100	1,0900	56,3700
2015	Tech	794	6,630000114	Tech Company	16,3800	17,7400	2,8000	1,1400	1,9300	39,9900
2015	Tech	723	4,28000021	Tech Company	15,2700	6,2700	3,4800	6,1000	3,6200	34,7400

2015	Financial Services	735	1,730000019	Non-Tech Company	22,1200	7,4000	2,7400	12,3300	9,8500	54,4400
2015	Financial Services	760	3,619999886	Non-Tech Company	16,8500	5,0500	17,5700	1,2500	0,3500	41,0700
2015	Education	776	3,160000086	Non-Tech Company	17,3000	26,5000	7,4800	11,1000	10,9200	73,3000
2015	Financial Services	791	3,390000105	Non-Tech Company	11,9700	27,4900	15,0800	4,0700	3,8300	62,4400
2015	Retail	773	5,670000076	Non-Tech Company	23,0700	28,0500	5,7500	10,2000	12,2800	79,3500
2015	Entertainment	797	3,470000029	Non-Tech Company	19,8000	11,9800	10,4500	4,0000	2,3000	48,5300
2015	Retail	749	2,329999924	Non-Tech Company	23,0300	13,4500	12,5900	9,3700	8,4100	66,8500
2015	Manufacturing	771	2,400000095	Non-Tech Company	21,3100	6,8100	9,6200	3,9700	8,9600	50,6700
2015	Entertainment	738	2,019999981	Non-Tech Company	17,9000	16,5500	17,2300	8,6900	0,1200	60,4900
2015	Tech	734	4,070000172	Tech Company	16,4700	20,5400	10,0100	12,4300	2,0400	61,4900
2015	Tech	705	7,849999905	Tech Company	12,2500	10,9100	11,3400	0,9300	0,1400	35,5700
2015	Retail	726	4,349999905	Non-Tech Company	17,8400	17,0400	7,0000	15,8300	8,1500	65,8600
2016	Retail	829	3,839999914	Non-Tech Company	24,7200	28,1000	13,3600	10,7400	4,0400	80,9600
2016	Tech	805	7,239999771	Tech Company	13,3700	8,1500	15,5300	7,6700	4,3400	49,0600
2016	Education	868	3,329999924	Non-Tech Company	22,9800	22,7500	12,9900	10,3900	12,8800	81,9900
2016	Financial Services	847	2,910000086	Non-Tech Company	17,9900	20,0100	11,4900	11,5600	1,8800	62,9300
2016	Financial Services	831	4,480000019	Non-Tech Company	16,7300	3,5400	20,8300	5,0600	12,2300	58,3900
2016	Financial Services	824	2,829999924	Non-Tech Company	18,4700	22,6300	15,5200	6,7400	10,6100	73,9700
2016	Retail	813	4,21999979	Non-Tech Company	33,4600	5,7700	6,3800	5,0600	6,8700	57,5400
2016	Financial Services	822	3,470000029	Non-Tech Company	18,3800	3,7600	7,6500	7,1800	2,3800	39,3500
2016	Manufacturing	882	2,880000114	Non-Tech Company	22,4300	23,0000	7,0200	5,2200	7,9100	65,5800
2016	Retail	879	3,24000001	Non-Tech Company	22,9600	18,7400	12,7000	5,6400	5,4100	65,4500
2016	Tech	808	6,53000021	Tech Company	11,4700	15,8600	11,4800	6,1000	3,1700	48,0800
2016	Tech	801	5,28000021	Tech Company	9,6200	11,9700	12,4500	5,0800	1,6100	40,7300

2016	Manufacturing	863	3,130000114	Non-Tech Company	20,3000	10,6500	4,1300	7,7900	12,2400	55,1100
2016	Manufacturing	849	2,700000048	Non-Tech Company	18,6800	27,6800	19,9500	13,8200	11,1000	91,2300
2016	Tech	875	8,68999958	Tech Company	17,4400	16,0700	16,4900	9,4200	2,0200	61,4400
2016	Entertainment	817	2,369999886	Non-Tech Company	20,4100	17,3000	5,8800	7,8700	8,2400	59,7000
2016	Financial Services	877	3,569999933	Non-Tech Company	20,2100	9,1900	8,4500	13,9800	7,6700	59,5000
2016	Financial Services	895	3,75999999	Non-Tech Company	16,9800	25,1900	12,2500	11,9700	3,8300	70,2200
2016	Financial Services	888	3,440000057	Non-Tech Company	15,1700	14,0600	8,2400	1,2400	5,0300	43,7400
2016	Education	859	3,289999962	Non-Tech Company	18,8400	29,5200	8,4500	15,0300	3,6200	75,4600
2016	Retail	867	2,299999952	Non-Tech Company	18,3000	18,2500	6,0700	10,5500	11,1200	64,2900
2016	Manufacturing	860	2,660000086	Non-Tech Company	25,7200	14,3400	16,1800	6,9900	3,9400	67,1700
2016	Education	894	3,50999999	Non-Tech Company	13,0000	20,1800	14,7700	13,9900	0,9400	62,8800
2016	Financial Services	844	2,589999914	Non-Tech Company	17,2000	10,3300	9,7100	2,8900	7,5800	47,7100
2016	Education	880	3,440000057	Non-Tech Company	17,8600	6,7000	13,5500	11,6300	2,2700	52,0100
2016	Manufacturing	890	3,680000067	Non-Tech Company	27,5500	27,3700	3,2100	4,6700	1,6500	64,4500
2016	Tech	881	6,349999905	Tech Company	16,1400	5,8100	11,9300	12,5100	4,7200	51,1100
2016	Financial Services	853	3,019999981	Non-Tech Company	19,2100	7,7900	15,3300	7,7100	1,8300	51,8700
2016	Retail	866	2,210000038	Non-Tech Company	16,5600	21,5000	3,0000	2,6200	3,5800	47,2600
2016	Retail	815	3,24000001	Non-Tech Company	14,7700	9,5700	11,5400	6,0200	4,2000	46,1000
2016	Financial Services	850	3,089999914	Non-Tech Company	22,0400	9,0400	16,0000	13,4900	11,3200	71,8900
2016	Retail	861	2,619999886	Non-Tech Company	20,6400	12,9300	14,0000	5,2400	2,2900	55,1000
2016	Entertainment	893	28,80999947	Non-Tech Company	25,3700	30,1300	13,7000	10,3100	2,6200	82,1300
2016	Tech	878	6,679999828	Tech Company	15,3300	8,6200	16,7200	13,2600	2,8800	56,8100
2016	Retail	858	4,099999905	Non-Tech Company	13,7500	26,6900	14,2500	10,0700	8,6500	73,4100

2016	Tech	835	3,460000038	Tech Company	16,6200	3,3200	7,0600	13,5500	3,8700	44,4200
2016	Tech	802	5,380000114	Tech Company	14,7400	12,3600	16,1300	0,4400	1,7500	45,4200
2016	Entertainment	834	3,400000095	Non-Tech Company	10,1500	29,2600	14,3300	7,1100	1,1800	62,0300
2016	Education	836	3,099999905	Non-Tech Company	23,8400	13,0100	20,1800	4,3700	5,9800	67,3800
2016	Education	821	3,670000076	Non-Tech Company	18,8300	16,1300	12,3900	8,7100	8,1300	64,1900
2016	Manufacturing	830	2,99000001	Non-Tech Company	17,6000	22,3000	5,7700	12,2900	12,3600	70,3200
2016	Entertainment	872	3,799999952	Non-Tech Company	17,3000	19,3000	2,7900	12,3100	2,2000	53,9000
2016	Retail	841	4,349999905	Non-Tech Company	13,1600	8,7800	6,8800	3,0200	2,3600	34,2000
2016	Entertainment	857	2,150000095	Non-Tech Company	24,6000	15,9700	18,3700	14,0000	10,3300	83,2700
2016	Retail	838	4,380000114	Non-Tech Company	17,8200	18,4900	13,9000	6,6400	11,1700	68,0200
2016	Manufacturing	900	2,910000086	Non-Tech Company	18,2300	30,5500	18,4600	1,5700	12,6500	81,4600
2016	Retail	855	3,410000086	Non-Tech Company	14,5600	20,7500	19,4500	5,5100	1,6600	61,9300
2016	Financial Services	862	2,940000057	Non-Tech Company	23,2400	14,2900	18,3300	9,3300	11,5900	76,7800
2016	Financial Services	839	4,300000191	Non-Tech Company	17,0400	18,7600	8,6500	1,0200	3,8200	49,2900
2016	Manufacturing	870	3,480000019	Non-Tech Company	14,5400	8,8300	3,8500	5,6300	7,8200	40,6700
2016	Tech	803	5,449999809	Tech Company	17,7900	5,6600	8,1100	0,9500	1,9000	34,4100
2016	Financial Services	896	2,380000114	Non-Tech Company	26,0700	21,6400	9,4800	11,1900	11,2200	79,6000
2016	Manufacturing	884	3,460000038	Non-Tech Company	20,4400	5,0300	15,2400	9,5400	7,4200	57,6700
2016	Tech	809	5,510000229	Tech Company	21,0200	15,6800	4,5500	11,7800	5,7500	58,7800
2016	Financial Services	898	2,640000105	Non-Tech Company	23,6100	3,9800	16,2600	11,1100	4,7900	59,7500
2016	Tech	854	4,75	Tech Company	4,8400	16,8800	12,5200	9,0800	4,4200	47,7400
2016	Retail	814	3,640000105	Non-Tech Company	24,6700	17,2500	14,4400	7,7100	9,5200	73,5900
2016	Manufacturing	856	2,650000095	Non-Tech Company	14,0800	30,0800	18,1200	9,0800	6,6900	78,0500
2016	Manufacturing	864	3,75999999	Non-Tech Company	8,5000	19,2100	20,9200	4,5100	9,1300	62,2700

2016	Financial Services	842	2,809999943	Non-Tech Company	26,7600	27,5200	4,6200	11,8000	10,8400	81,5400
2016	Manufacturing	832	2,859999895	Non-Tech Company	19,0100	15,9000	3,2900	13,2900	7,7600	59,2500
2016	Financial Services	873	3,690000057	Non-Tech Company	15,8100	28,0600	2,7200	4,2000	3,2700	54,0600
2016	Financial Services	871	3,609999895	Non-Tech Company	20,5100	23,3700	2,5400	5,6100	3,9300	55,9600
2016	Financial Services	899	3,279999971	Non-Tech Company	26,5800	28,4000	5,3500	11,7500	0,1300	72,2100
2016	Tech	846	5,869999886	Tech Company	11,7900	5,5400	10,5800	12,1600	1,2200	41,2900
2016	Tech	804	3,869999886	Tech Company	8,1700	8,3100	1,4400	11,6000	0,4800	30,0000
2016	Financial Services	845	3,769999981	Non-Tech Company	12,4600	4,9500	20,1500	13,3000	2,4900	53,3500
2016	Manufacturing	885	2,640000105	Non-Tech Company	22,8100	21,7100	3,1800	8,1300	10,1100	65,9400
2016	Entertainment	816	3,190000057	Non-Tech Company	19,2300	24,1700	11,2400	3,3900	3,8700	61,9000
2016	Tech	806	2,950000048	Tech Company	18,3000	3,3900	13,2200	6,7300	0,9900	42,6300
2016	Entertainment	823	3,630000114	Non-Tech Company	22,0800	13,9400	5,9600	1,6600	1,2900	44,9300
2016	Tech	865	6,260000229	Tech Company	13,5600	9,5000	14,8000	1,5200	2,8000	42,1800
2016	Tech	810	6,489999771	Tech Company	14,1400	9,3700	0,8200	2,8700	1,4800	28,6800
2016	Retail	889	2,309999943	Non-Tech Company	23,5900	14,8100	7,7900	3,6800	8,8100	58,6800
2016	Tech	812	5,039999962	Tech Company	14,6400	15,8400	6,8700	3,4500	0,3600	41,1600
2016	Tech	807	4,409999847	Tech Company	18,6000	5,2000	14,5500	10,8100	4,8000	53,9600
2016	Retail	876	3,599999905	Non-Tech Company	17,4500	10,6200	9,1300	2,2700	6,5900	46,0600
2016	Retail	820	2,079999924	Non-Tech Company	22,3100	21,2100	14,3600	10,9400	1,5800	70,4000
2016	Retail	837	3,420000076	Non-Tech Company	24,8300	8,4900	18,5100	7,0500	10,9900	69,8700
2016	Financial Services	892	3,170000076	Non-Tech Company	19,6900	25,5100	18,6800	3,5100	3,2100	70,6000
2016	Entertainment	818	3,180000067	Non-Tech Company	20,6500	12,9500	11,5800	3,0500	3,9900	52,2200
2016	Entertainment	833	3,589999914	Non-Tech Company	20,4600	29,4200	3,8300	9,3600	5,7400	68,8100
2016	Tech	811	5,900000095	Tech Company	14,6000	16,1200	6,3900	6,8900	0,3600	44,3600
2016	Retail	848	2,710000038	Non-Tech Company	10,0600	24,9200	14,9300	9,0200	1,6600	60,5900

2016	Tech	886	6,400000095	Tech Company	21,0700	17,5700	15,8700	2,1800	5,2500	61,9400
2016	Financial Services	897	3,579999924	Non-Tech Company	18,1000	24,3400	13,0400	13,2400	7,2200	75,9400
2016	Retail	883	1,309999943	Non-Tech Company	23,0000	17,1600	18,0000	10,7200	12,5600	81,4400
2016	Education	869	2,140000105	Non-Tech Company	18,3300	21,4000	7,8500	8,8300	11,7000	68,1100
2016	Financial Services	852	4,079999924	Non-Tech Company	19,3600	24,5200	8,7400	13,2500	1,7900	67,6600
2016	Financial Services	887	2,640000105	Non-Tech Company	28,4000	29,7800	10,5500	4,5600	4,5000	77,7900
2016	Retail	840	2,75999999	Non-Tech Company	19,3700	4,8500	8,1100	3,3200	11,0900	46,7400
2016	Entertainment	825	4,619999886	Non-Tech Company	21,0100	25,7900	7,3200	11,6800	12,1200	77,9200
2016	Financial Services	851	2,769999981	Non-Tech Company	26,5700	13,2800	11,1300	11,8300	1,5600	64,3700
2016	Manufacturing	891	4,460000038	Non-Tech Company	15,6500	22,7000	19,1600	4,6700	3,1400	65,3200
2016	Retail	819	4,670000076	Non-Tech Company	18,7700	18,2300	4,1400	11,6300	4,0000	56,7700
2016	Retail	826	2,980000019	Non-Tech Company	18,6100	14,0400	13,1700	2,1800	4,2900	52,2900
2016	Education	828	3,069999933	Non-Tech Company	20,3300	14,6600	2,9500	6,7800	4,5000	49,2200
2016	Tech	827	4,920000076	Tech Company	15,4900	15,9300	5,3800	11,2900	4,8200	52,9100
2016	Tech	874	7,409999847	Tech Company	18,0800	13,4100	7,2500	1,6400	2,7700	43,1500
2016	Tech	843	4,909999847	Tech Company	18,1100	12,2200	10,2500	4,5000	3,9800	49,0600
2017	Tech	979	8,470000267	Tech Company	8,5900	20,0500	15,8300	8,9100	0,5000	53,8800
2017	Manufacturing	913	2,480000019	Non-Tech Company	25,1200	25,3600	20,3200	14,7700	10,9700	96,5400
2017	Retail	976	2,049999952	Non-Tech Company	25,7400	7,9100	10,2800	7,5100	3,4500	54,8900
2017	Manufacturing	951	4,210000038	Non-Tech Company	25,7800	17,5000	9,4900	8,6500	9,4000	70,8200
2017	Manufacturing	918	2,819999933	Non-Tech Company	24,1300	6,6700	20,5300	11,3800	6,1200	68,8300
2017	Entertainment	925	2,720000029	Non-Tech Company	24,5500	17,2200	3,2200	12,9500	3,3500	61,2900
2017	Retail	981	3,700000048	Non-Tech Company	19,5900	26,1600	17,5900	2,3100	6,1600	71,8100
2017	Retail	980	4,5	Non-Tech Company	25,5500	6,8700	15,3100	5,2900	10,2700	63,2900

2017	Financial Services	937	2,599999905	Non-Tech Company	16,5500	29,6300	10,1600	9,6700	3,0500	69,0600
2017	Financial Services	916	3,390000105	Non-Tech Company	13,6500	3,4100	7,4100	3,3700	2,7500	30,5900
2017	Entertainment	942	2,380000114	Non-Tech Company	23,4600	3,9900	10,2800	12,2300	10,5000	60,4600
2017	Tech	904	9,020000458	Tech Company	15,2900	13,9400	1,7200	10,9100	3,3100	45,1700
2017	Education	949	2,789999962	Non-Tech Company	22,4800	30,9600	19,0700	6,0400	7,1900	85,7400
2017	Retail	944	3,109999895	Non-Tech Company	15,7000	10,2700	15,9000	3,9400	3,6500	49,4600
2017	Tech	902	5,909999847	Tech Company	13,1800	12,1100	0,9500	3,1200	2,2800	31,6400
2017	Manufacturing	992	1,649999976	Non-Tech Company	22,0500	3,4400	7,9100	2,6900	7,6200	43,7100
2017	Retail	928	3,700000048	Non-Tech Company	19,5100	4,6900	9,9300	3,1400	2,2300	39,5000
2017	Entertainment	927	2,339999914	Non-Tech Company	19,8800	12,8400	12,4800	11,4400	2,1100	58,7500
2017	Retail	945	3,440000057	Non-Tech Company	20,0400	22,6200	2,4900	11,7100	11,9500	68,8100
2017	Financial Services	972	3,549999952	Non-Tech Company	24,3000	23,5400	14,7100	15,2800	8,5000	86,3300
2017	Tech	987	8,020000458	Tech Company	9,8600	21,7600	3,3500	8,8300	4,7500	48,5500
2017	Financial Services	935	4,059999943	Non-Tech Company	12,9900	16,4000	7,1500	15,5900	9,5500	61,6800
2017	Entertainment	993	4,079999924	Non-Tech Company	23,1100	26,3100	6,6800	14,0800	8,4200	78,6000
2017	Entertainment	991	3,059999943	Non-Tech Company	23,6300	24,8100	13,4800	4,8800	5,0900	71,8900
2017	Financial Services	958	2,50999999	Non-Tech Company	22,6800	17,8600	7,3600	3,1000	9,9700	60,9700
2017	Tech	905	6,260000229	Tech Company	13,7700	15,2700	1,9700	7,1200	2,7400	40,8700
2017	Retail	933	2,619999886	Non-Tech Company	27,8200	15,2600	13,1200	1,1000	10,8900	68,1900
2017	Entertainment	948	2,720000029	Non-Tech Company	10,7000	4,6200	12,3100	13,2100	7,9400	48,7800
2017	Financial Services	994	2,480000019	Non-Tech Company	0,6800	10,1500	3,9800	13,6800	2,5800	31,0700
2017	Retail	983	4,110000134	Non-Tech Company	17,3700	5,5700	6,3800	6,7700	5,8400	41,9300
2017	Financial Services	939	5,090000153	Non-Tech Company	20,5600	18,8800	18,9500	11,4000	6,8100	76,6000

2017	Financial Services	1000	3,210000038	Non-Tech Company	15,5800	10,9600	14,6300	10,5900	12,2000	63,9600
2017	Entertainment	930	3,180000067	Non-Tech Company	26,8100	16,9400	10,8200	13,1300	0,7500	68,4500
2017	Tech	910	4,099999905	Tech Company	12,7900	21,9600	14,1900	12,2500	3,0600	64,2500
2017	Tech	907	7,400000095	Tech Company	17,7600	3,2100	12,4800	0,6600	1,5900	35,7000
2017	Tech	990	5,860000134	Tech Company	18,2800	12,0900	6,8300	12,3100	4,1100	53,6200
2017	Tech	986	6,289999962	Tech Company	15,1000	4,6700	7,7700	2,2200	1,2200	30,9800
2017	Manufacturing	915	4,630000114	Non-Tech Company	24,5300	28,2600	9,1100	5,1700	8,8200	75,8900
2017	Financial Services	943	2,960000038	Non-Tech Company	23,2100	5,3900	6,6800	13,6500	10,5100	59,4400
2017	Financial Services	929	2,470000029	Non-Tech Company	17,2900	11,9000	12,2400	4,8800	11,3600	57,6700
2017	Tech	926	6,650000095	Tech Company	16,8600	20,2000	16,0600	11,3500	3,8900	68,3600
2017	Retail	971	3,890000105	Non-Tech Company	21,7500	30,3900	9,1900	13,8700	12,8000	88,0000
2017	Financial Services	968	1,620000005	Non-Tech Company	10,2200	17,5500	20,1800	5,0300	4,2200	57,2000
2017	Financial Services	964	3,190000057	Non-Tech Company	11,6900	11,1200	15,6100	9,6800	11,5000	59,6000
2017	Retail	946	2,809999943	Non-Tech Company	28,0900	12,9200	9,6000	8,8900	7,7700	67,2700
2017	Retail	920	1,710000038	Non-Tech Company	20,2300	13,5300	2,5500	7,9800	5,9700	50,2600
2017	Financial Services	965	4,25	Non-Tech Company	19,4600	13,5900	16,5400	12,1100	3,8700	65,5700
2017	Financial Services	931	3,480000019	Non-Tech Company	16,5600	4,3800	15,0700	10,0300	10,7000	56,7400
2017	Retail	975	3,690000057	Non-Tech Company	22,3400	16,1900	8,8100	9,0000	2,5500	58,8900
2017	Tech	912	6,099999905	Tech Company	19,2500	11,6100	6,9000	11,7800	2,2400	51,7800
2017	Entertainment	978	3,640000105	Non-Tech Company	27,1100	12,8100	3,0200	13,5500	8,0400	64,5300
2017	Tech	901	4,25	Tech Company	17,6500	6,1200	4,6400	0,3000	3,5000	32,2100
2017	Manufacturing	985	2,539999962	Non-Tech Company	13,9300	8,4200	17,4000	12,0000	7,2900	59,0400
2017	Entertainment	953	4,019999981	Non-Tech Company	16,4900	3,6500	4,2000	13,4600	12,2500	50,0500
2017	Financial Services	950	3,579999924	Non-Tech Company	24,2900	14,8800	2,8600	7,7500	4,1000	53,8800
2017	Tech	906	5,699999809	Tech Company	10,3400	17,0200	3,5700	13,8400	2,3100	47,0800

2017	Tech	908	6,989999771	Tech Company	17,2200	4,3100	12,1600	0,5700	5,6500	39,9100
2017	Manufacturing	941	2,880000114	Non-Tech Company	18,9500	19,7300	20,9900	8,3200	10,4700	78,4600
2017	Entertainment	995	3,160000086	Non-Tech Company	15,1400	6,6000	13,9700	6,5400	9,8900	52,1400
2017	Financial Services	914	2	Non-Tech Company	17,8100	30,0300	14,1300	9,5000	6,1900	77,6600
2017	Retail	952	3,930000067	Non-Tech Company	23,6100	21,9400	9,9300	12,9500	6,3700	74,8000
2017	Financial Services	977	2,819999933	Non-Tech Company	21,0100	23,7600	20,9300	13,9500	6,2600	85,9100
2017	Retail	919	2,819999933	Non-Tech Company	14,5400	10,6500	9,2000	11,4700	2,2100	48,0700
2017	Financial Services	982	3,220000029	Non-Tech Company	12,6200	8,6400	8,0000	5,3400	8,6500	43,2500
2017	Manufacturing	917	2,880000114	Non-Tech Company	18,6100	25,4700	19,7700	5,1800	3,6000	72,6300
2017	Retail	957	2	Non-Tech Company	21,6400	28,4300	12,6400	1,1200	4,0700	67,9000
2017	Manufacturing	962	2,650000095	Non-Tech Company	20,6700	18,4900	2,0300	1,0700	4,9700	47,2300
2017	Retail	955	2,24000001	Non-Tech Company	16,0000	11,7500	18,4500	8,0200	7,3000	61,5200
2017	Retail	932	3,109999895	Non-Tech Company	21,5500	28,2400	2,4100	8,8600	9,4700	70,5300
2017	Tech	911	6,880000114	Tech Company	15,7900	20,6000	4,7600	1,7700	2,6500	45,5700
2017	Manufacturing	938	3,069999933	Non-Tech Company	27,8100	27,6300	6,5600	2,8400	10,1000	74,9400
2017	Manufacturing	989	2,920000076	Non-Tech Company	23,7500	3,8500	12,4500	8,2900	6,1400	54,4800
2017	Retail	924	2,460000038	Non-Tech Company	16,7900	11,8200	4,8900	15,0300	4,7500	53,2800
2017	Entertainment	923	2,369999886	Non-Tech Company	25,3000	26,8100	4,6900	8,5100	8,0100	73,3200
2017	Financial Services	997	2,839999914	Non-Tech Company	20,9600	10,6200	10,3100	14,5000	1,0000	57,3900
2017	Retail	998	3,039999962	Non-Tech Company	28,4500	8,3800	14,0400	13,2000	2,1700	66,2400
2017	Education	963	3,049999952	Non-Tech Company	16,0200	23,8400	6,3300	2,0800	4,2500	52,5200
2017	Manufacturing	969	3,220000029	Non-Tech Company	17,2200	22,2200	12,7900	13,2000	3,3800	68,8100
2017	Entertainment	954	3,369999886	Non-Tech Company	11,3700	22,1200	8,7300	3,3400	12,7600	58,3200

2017	Manufacturing	921	2,880000114	Non-Tech Company	17,3500	11,6700	12,6100	10,4600	8,3500	60,4400
2017	Tech	970	5,829999924	Tech Company	11,8400	17,9700	9,3700	13,8900	2,5900	55,6600
2017	Financial Services	961	3,460000038	Non-Tech Company	21,1200	5,2600	12,0900	14,3100	8,0400	60,8200
2017	Tech	903	8,119999886	Tech Company	20,7800	20,0900	1,5800	7,8100	0,4900	50,7500
2017	Retail	999	3,329999924	Non-Tech Company	20,9100	9,2100	15,6600	3,2700	5,5100	54,5600
2017	Financial Services	988	2,359999895	Non-Tech Company	10,7900	13,3000	9,0600	4,9100	8,3300	46,3900
2017	Manufacturing	936	3,539999962	Non-Tech Company	16,3300	26,9800	15,4800	4,3200	9,2200	72,3300
2017	Tech	996	7,130000114	Tech Company	9,8900	10,6200	8,2100	8,9900	4,7700	42,4800
2017	Manufacturing	959	2,890000105	Non-Tech Company	16,6300	5,8300	5,9000	14,4300	4,0900	46,8800
2017	Education	966	2,839999914	Non-Tech Company	23,5200	20,2800	18,9400	6,4300	8,0500	77,2200
2017	Manufacturing	947	3,400000095	Non-Tech Company	15,2200	9,9800	13,4200	1,3400	0,6100	40,5700
2017	Tech	934	4,269999981	Tech Company	8,3500	15,6700	16,5900	4,9800	5,2200	50,8100
2017	Financial Services	956	2,299999952	Non-Tech Company	13,3400	14,1700	6,1800	15,3600	4,6900	53,7400
2017	Entertainment	973	1,690000057	Non-Tech Company	19,4900	17,0100	9,5100	2,3700	8,2100	56,5900
2017	Entertainment	984	3,49000001	Non-Tech Company	8,5200	4,8900	19,7300	8,7800	7,6500	49,5700
2017	Tech	909	7,159999847	Tech Company	10,2000	9,9100	4,7100	8,8900	5,4500	39,1600
2017	Financial Services	974	4,75	Non-Tech Company	17,7800	10,9000	13,1400	1,7100	2,4700	46,0000
2017	Entertainment	967	4,03000021	Non-Tech Company	22,7600	16,0200	3,9900	11,1900	10,2700	64,2300
2017	Retail	960	2,49000001	Non-Tech Company	24,5700	13,0900	13,4500	14,6700	1,1300	66,9100
2017	Manufacturing	922	2,49000001	Non-Tech Company	23,2600	7,7200	14,4000	12,5100	2,9500	60,8400
2017	Manufacturing	940	2,140000105	Non-Tech Company	19,9500	12,8000	5,1700	7,1600	10,6000	55,6800

Appendix B: Delphi Results

Table of Representative Comments, RQ3: Crowdfunding is a Niche

Participant #	Comment
7	If you look at the existing data, crowdfunding is a niche option. It's just starting out. The fact, it hasn't displaced traditional methods of funding yet, so I wouldn't describe it as being important for SMEs.
15	Of course, there are examples of successful crowdfunding, but those are very limited. I don't think I would describe crowdfunding as an important funding strategy. I'd like to think it's more of a novelty, although that could change.
25	I'm not an evangelist of crowdfunding. I don't think it's widespread or viable for the vast, vast majority of companies or individual investors.
29	The wisdom of crowds theory is all well and good, but the public isn't ready to treat crowdfunding with the same kind of trust that goes into buying existing, lower-risk instruments with closer guidance from advisors and other third parties. There's too much risk in crowdfunding, so it's a small financing alternative right now.
41	Crowdfunding is a nascent funding approach.
45	Crowdfunding is far from mature.

Table of Representative Comments, RQ3: Crowdfunding Has a Limited Future

Participant #	Comment
7	There's definitely a ceiling that crowdfunding hasn't reached yet. I think that's more true in Europe than in the United States. In the future, I can see SMEs getting maybe a tenth of their funding from crowdfunding, simply because individual investors are going to appreciate skipping commissions and chasing higher returns by investing in SMEs in their early stages.
15	Does crowdfunding have a bright future? It depends on what we mean by a bright future! Is crowdfunding going to really displace traditional funding? No. I'll explain my reasons for this below. But let me just note that I do expect crowdfunding to increase its relative share against traditional means of funding.
29	Crowdfunding can get so far, and no farther.

Okay, so, if—and that's a big *if*—the demand for crowdfunding increases radically, then you'd probably see traditional funding sources either take some steps back or somehow insert themselves into the crowdfunding process. But I want to emphasize that I won't believe in this *if*. For a lot of reasons—and not even primarily because of regulations or laws—crowdfunding is going to have a minimal impact on the market, because there are all kinds of game-theoretic reasons that crowdfunding will never constitute more than a small percentage of funding for the vast majority of SMEs. Crowdfunding isn't there today, I mean, as a true alternative to traditional funding, so it's already having a limited impact on the market. What I'm claiming is that crowdfunding won't be there tomorrow either, so that big market impact's never coming. Some incremental changes and challenges are all we can reliably expect.

The bottom line is, just about wherever you are in the world, there's going to be a cap on crowdfunding imposed by regulation, which is why I want to emphasize my belief that crowdfunding isn't going to have a much bigger impact on the marketplace than it's already having today—which is to say, a modest impact. If you look at the U.S., where crowdfunding really began and which is still the biggest market for crowdfunding, you can see the involvement of the Securities and Exchange Commission, which is imposing caps on the amount of crowdfunding that can be obtained by any one company. Closely related to this issue of regulation is that of market structure. Regulation's creating pathways for companies to draw on crowdfunding as a kind of adjunct to traditional funding. None of that's going to affect the traditional funding market. The traditional players and the crowdfunding players are kind of siloed off, each in their worlds, and these worlds aren't going to meet. You might see a small displacement of traditional funding if crowdfunding claims a greater relative share, but you won't really see crowdfunding altering the traditional funding marketplace in any meaningful way.

Now, I don't know about any Wild West environments out there. There could be countries with no crowdfunding regulations whatsoever, so I want to make it clear that my comments are delimited to the environments and climates with which I'm most familiar. Now, in Germany, we see that the regulatory gaps have been closed over the past several years. The greatest danger used to be that, when the gaps were indeed present, a company seeking to benefit from crowdfunding might have been able to solicit investment without making the right information, in the sufficient quantities, available to prospective investors. We're not seeing that any longer. Even through there are still exceptions in which a whole prospectus doesn't have to be issued, I don't consider that a major regulatory gap for Germany, and certainly not one that's going to promote systemic risk. I mean, there are many crowdfunding investor safeguards in place regardless of the size of the company soliciting funds and other underlying factors. Bear in mind that investment is an inherently risk activity, so what I'm concerned with is examining the question of whether, in Germany in particular, the risks associated with regulatory gaps in crowdfunding are greater than ordinary investment risks. Based on my knowledge, I would argue that the risks of crowdfunding are essentially the same risks, both in quality and magnitude, that occur elsewhere in the German investment environment. That is why I would argue that, while there are probably remaining regulatory gaps in Germany, these gaps aren't that important, and they're not likely to be the basis for systemic risk. Also, remember that over-regulation as a means of reducing gaps is going to chill investment, and no one wants that outcome either. I think Germany has struck the right balance between demanding transparency and thoroughness from the companies seeking crowdfunding and the need to enliven the marketplace by allowing these kinds of investments to take place.

I’m not necessarily sanguine about the regulatory environment. Outside Europe and North America, there are big gaps, and, even within these two geographies, there are going to be local gaps, difficulties in interpretation, and other real problems. Rather than dwell on the exact nature of these gaps, though, I’d like to dwell on another point, which is that the risks don’t really add up to what you’re calling systemic risk. Given how small the volume of crowdfunding is to be, even major gaps in regulation are hardly going to create systemic risk. Is there a place for unscrupulous companies to take advantage of underinformed investors? Certainly, but (a) not at a volume sufficient to threaten the marketplace and (b) not in any manner that doesn’t already exist outside crowdfunding. Lots of big companies with shiny prospectuses end up bilking investors.

A major cost of strengthening the regulatory climate is going to be dampening investment. That's the fulcrum on which this cost-benefit issue turns, in fact. If the regulatory authority goes too far in demanding not just prospectuses but other material from SMEs, particularly on the smaller end, looking for access to the crowdfunding market, then the problem that could arise is that these companies—many of which really are likely to make contributions to the economy, especially in this new-economy climate—are not going to get access to some quantum of their needed funds. The same problem affects investors, but from the other side. By now, most investors are aware of how, in the current technological and economic climate, tech companies in particular come out of people's garages and become these huge companies. What if you want access to that and your name isn't Peter Thiel? Crowdfunding is the right alternative to you, but, if the kind of companies you want to invest in are buried under heavy regulations, then you won't have access to the companies. We'll all lose, because maybe the next Apple or Google will fail to launch. I know it's a far-fetched scenario, but the point is that we need an environment in which not just the VCs and big movers and shakers can have early-stage access to great companies and great ideas. Once you can open up this landscape to ordinary investors, everyone will benefit. Now, on the other side of that is the issue that, if there aren't regulations, or if the regulations are too weak, you've created a bad environment, once that unscrupulous companies and individuals can take advantage of. Therefore, the cost-benefit issue really comes down to staking out a place somewhere midway between the need to facilitate an open investment climate and the need to protect investors. I can't say exactly where that line is; I suspect we'll have to find it through trial and error.

A good way to dive into this topic is to ask why crowdfunding exists. Obviously, there's a need for investment that falls below the radar of traditional investment,

where you have a prospectus and well-heeled investors being wooed by a large company. In fact, we know that there's a need for this kind of investment, because angel investors and an early-stage funding climate already exists. Now, when we look at the VC community, I think there's a possibility that they don't necessarily represent the market as a whole. Remember, VCs have their own specific tastes and preferences. What's powerful about crowdfunding is that, by taking your case to the market as an SME, you're in a position to tap into the broader tastes and preferences of the market. It would be self-defeating to clap very tight regulations on SMEs seeking to crowdfund, because, after all, companies that are able and willing to rise to that threshold are going to choose traditional funding. It could also be the case that SMEs are using crowdfunding just as a complement to their other investing channels, in which case the informed crowdfunder has an opportunity to due diligence. The point is that crowdfunding isn't meant to exist outside regulatory constraints, but, shall we say, *below* them. An SME seeking crowdfunding shouldn't be asked to meet the regulatory burden that exists in other funding channels—whether as driven by government regulations, VC requirements, or whatever. There should be a space for companies and investors to come together in a grassroots manner, with the minimal necessary regulatory burden, and let crowdfunding happen. I'm a believer in keeping a regulatory burden on crowdfunding, but just enough of one to let this exciting channel achieve its potential. The cost of increasing the regulatory burden is the cost of shutting down crowdfunding altogether.

Appendix C: Regression Tables

```
___ ____ ____ (R)
 /__    /   ____/   /   ____/
___/   /   /___/   /   /___/   14.2   Copyright 1985-2015 StataCorp LLC
 Statistics/Data Analysis      StataCorp
                    4905 Lakeway Drive
   Special Edition          College Station, Texas 77845 USA
                    800-STATA-PC    http://www.stata.com
                    979-696-4600    stata@stata.com
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Notes:
   1. Unicode is supported; see help unicode_advice.
   2. Maximum number of variables is set to 5000; see help set_maxvar.

. forval i=2008/2017 {
 2.
. regress cfund seed if year==`i'
 3.
. }

   Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      8.41
    Model |  20.4014222     1  20.4014222   Prob > F    =    0.0046
  Residual |  237.687659    98  2.42538428   R-squared   =    0.0790
-------------+------------------------------   Adj R-squared =    0.0697
    Total |  258.089081    99  2.60696042   Root MSE    =    1.5574

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        seed |  -.0865391   .0298382    -2.90   0.005    -.145752   -.0273262
       _cons |   5.383505   .5364684    10.04   0.000     4.318901    6.448109
------------------------------------------------------------------------------

   Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      2.31
    Model |  16.1644866     1  16.1644866   Prob > F    =    0.1322
  Residual |  687.209626    98  7.01234313   R-squared   =    0.0230
-------------+------------------------------   Adj R-squared =    0.0130
    Total |  703.374113    99  7.10478902   Root MSE    =    2.6481

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        seed |  -.0651988   .0429428    -1.52   0.132    -.1504174    .0200198
       _cons |   5.409997   .8055038     6.72   0.000     3.811501    7.008493
------------------------------------------------------------------------------

   Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      8.46
    Model |  15.7373109     1  15.7373109   Prob > F    =    0.0045
  Residual |  182.310018    98  1.86030631   R-squared   =    0.0795
-------------+------------------------------   Adj R-squared =    0.0701
    Total |  198.047329    99  2.00047807   Root MSE    =    1.3639

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        seed |  -.0773427   .0265917    -2.91   0.004    -.1301131   -.0245723
       _cons |   4.904798   .4812044    10.19   0.000     3.949863    5.859732
------------------------------------------------------------------------------


Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      1.86
    Model |  55.3950119     1  55.3950119   Prob > F    =    0.1763
  Residual |  2926.27244    98  29.8599229   R-squared   =    0.0186
-------------+------------------------------   Adj R-squared =    0.0086
    Total |  2981.66745    99  30.1178531   Root MSE    =    5.4644
```

```
------------------------------------------------------------------------------
    cfund |   Coef.  Std. Err.   t  P>|t|   [95% Conf. Interval]
----------+-------------------------------------------------------------------
    seed | -.1279661  .0939515  -1.36  0.176  -.3144098  .0584777
    _cons |  6.50952  1.728479   3.77  0.000   3.079408  9.939631
------------------------------------------------------------------------------

   Source |    SS      df    MS   Number of obs  =    100
----------+-----------------------------------  F(1, 98)    =   25.83
    Model | 70.8821403     1 70.8821403  Prob > F    =  0.0000
  Residual | 268.890932    98 2.74378502  R-squared    =  0.2086
----------+-----------------------------------  Adj R-squared  =  0.2005
    Total | 339.773072    99 3.43205123  Root MSE    =  1.6564

------------------------------------------------------------------------------
    cfund |   Coef.  Std. Err.   t  P>|t|   [95% Conf. Interval]
----------+-------------------------------------------------------------------
    seed |  -.157337  .0309555  -5.08  0.000  -.2187671  -.0959069
    _cons |  6.610358  .5543492  11.92  0.000   5.51027  7.710446
------------------------------------------------------------------------------

   Source |    SS      df    MS   Number of obs  =    100
----------+-----------------------------------  F(1, 98)    =   17.40
    Model | 26.1874034     1 26.1874034  Prob > F    =  0.0001
  Residual | 147.500736    98 1.50510955  R-squared    =  0.1508
----------+-----------------------------------  Adj R-squared  =  0.1421
    Total |  173.68814    99 1.75442565  Root MSE    =  1.2268

------------------------------------------------------------------------------
    cfund |   Coef.  Std. Err.   t  P>|t|   [95% Conf. Interval]
----------+-------------------------------------------------------------------
    seed | -.1028954  .024668  -4.17  0.000  -.1518483  -.0539426
    _cons |  5.482911  .4578177  11.98  0.000   4.574387  6.391436
------------------------------------------------------------------------------

   Source |    SS      df    MS   Number of obs  =    100
----------+-----------------------------------  F(1, 98)    =    0.93
    Model | 13.7904085     1 13.7904085  Prob > F    =  0.3369
  Residual | 1451.22659    98 14.8084345  R-squared    =  0.0094
----------+-----------------------------------  Adj R-squared  =  -0.0007
    Total | 1465.01699    99 14.7981514  Root MSE    =  3.8482

------------------------------------------------------------------------------
    cfund |   Coef.  Std. Err.   t  P>|t|   [95% Conf. Interval]
----------+-------------------------------------------------------------------
    seed | -.0619417  .0641873  -0.97  0.337  -.1893194  .0654359
    _cons |  5.146592  1.220762   4.22  0.000   2.724029  7.569156
------------------------------------------------------------------------------

   Source |    SS      df    MS   Number of obs  =    100
----------+-----------------------------------  F(1, 98)    =   10.42
    Model | 43.0809393     1 43.0809393  Prob > F    =  0.0017
  Residual | 405.037323    98  4.1330339  R-squared    =  0.0961
----------+-----------------------------------  Adj R-squared  =  0.0869
    Total | 448.118262    99 4.52644709  Root MSE    =   2.033

------------------------------------------------------------------------------
    cfund |   Coef.  Std. Err.   t  P>|t|   [95% Conf. Interval]
----------+-------------------------------------------------------------------
    seed | -.1352142  .0418807  -3.23  0.002  -.2183251  -.0521033
    _cons |  6.456278  .7798345   8.28  0.000   4.908722  8.003834
------------------------------------------------------------------------------


Source |    SS      df    MS   Number of obs  =    100
----------+-----------------------------------  F(1, 98)    =    0.26
    Model |  2.0900946     1  2.0900946  Prob > F    =  0.6119
  Residual | 790.832371    98 8.06971807  R-squared    =  0.0026
----------+-----------------------------------  Adj R-squared  =  -0.0075
    Total | 792.922465    99 8.00931783  Root MSE    =  2.8407

------------------------------------------------------------------------------
    cfund |   Coef.  Std. Err.   t  P>|t|   [95% Conf. Interval]
----------+-------------------------------------------------------------------
    seed | -.0302508  .0594406  -0.51  0.612  -.1482089  .0877072
    _cons |  4.609484  1.144778   4.03  0.000   2.337709  6.881258
------------------------------------------------------------------------------
```

```
   Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      9.91
       Model |  24.7400779     1  24.7400779   Prob > F    =    0.0022
    Residual |  244.691184    98  2.49684881   R-squared   =    0.0918
-------------+------------------------------   Adj R-squared =    0.0826
       Total |  269.431262    99   2.7215279   Root MSE    =    1.5801

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       seed |   -.0923245    .02933    -3.15   0.002    -.150529   -.03412
       _cons |    5.464949   .5655255    9.66   0.000     4.342682   6.587216
------------------------------------------------------------------------------
```

```
. forval i=2008/2017 {
 2.
. regress cfund su if year==`i'
 3.
. }

   Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      2.33
       Model |  5.99148177     1  5.99148177   Prob > F    =    0.1302
    Residual |   252.0976    98  2.57242449   R-squared   =    0.0232
-------------+------------------------------   Adj R-squared =    0.0132
       Total |  258.089081    99  2.60696042   Root MSE    =    1.6039

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          su |  -.0309046   .0202501    -1.53   0.130    -.0710903    .0092811
       _cons |    4.360759   .3449973    12.64   0.000     3.676123    5.045395
------------------------------------------------------------------------------

   Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      0.08
       Model |  .573469568     1  .573469568   Prob > F    =    0.7779
    Residual |  702.800643    98  7.17143514   R-squared   =    0.0008
-------------+------------------------------   Adj R-squared =   -0.0094
       Total |  703.374113    99  7.10478902   Root MSE    =     2.678

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          su |   .0108946   .0385266     0.28   0.778    -.0655602    .0873495
       _cons |    4.086176   .6543226     6.24   0.000     2.787694    5.384657
------------------------------------------------------------------------------

   Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      4.19
       Model |  8.12317955     1  8.12317955   Prob > F    =    0.0433
    Residual |  189.924149    98  1.93800153   R-squared   =    0.0410
-------------+------------------------------   Adj R-squared =    0.0312
       Total |  198.047329    99  2.00047807   Root MSE    =    1.3921

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          su |  -.0376025   .0183667    -2.05   0.043    -.0740505   -.0011544
       _cons |    4.181894   .3329866    12.56   0.000     3.521093    4.842695
------------------------------------------------------------------------------

   Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      0.29
       Model |  8.90102798     1  8.90102798   Prob > F    =    0.5893
    Residual |  2972.76643    98  30.3343513   R-squared   =    0.0030
-------------+------------------------------   Adj R-squared =   -0.0072
       Total |  2981.66745    99  30.1178531   Root MSE    =    5.5077

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          su |  -.0387292   .0714967    -0.54   0.589    -.1806122    .1031537
       _cons |    4.897689   1.272994     3.85   0.000     2.371475    7.423904
------------------------------------------------------------------------------
```

```
 Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      4.45
       Model |  14.7582342     1  14.7582342   Prob > F    =    0.0374
    Residual |  325.014838    98  3.31647794   R-squared   =    0.0434
-------------+------------------------------   Adj R-squared =    0.0337
       Total |  339.773072    99  3.43205123   Root MSE    =    1.8211

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          su |  -.0514191   .0243751    -2.11   0.037    -.0997906   -.0030476
       _cons |   4.664105   .3963453    11.77   0.000     3.877571    5.450639
------------------------------------------------------------------------------

      Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      1.31
       Model |  2.29094074     1  2.29094074   Prob > F    =    0.2552
    Residual |  171.397199    98  1.74895101   R-squared   =    0.0132
-------------+------------------------------   Adj R-squared =    0.0031
       Total |   173.68814    99  1.75442565   Root MSE    =    1.3225

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          su |  -.0191255   .0167107    -1.14   0.255    -.0522873    .0140363
       _cons |   3.972066   .3163952    12.55   0.000      3.34419    4.599942
------------------------------------------------------------------------------

      Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      0.10
       Model |  1.43918958     1  1.43918958   Prob > F    =    0.7569
    Residual |   1463.5778    98  14.9344674   R-squared   =    0.0010
-------------+------------------------------   Adj R-squared =   -0.0092
       Total |  1465.01699    99  14.7981514   Root MSE    =    3.8645

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          su |   .0157437   .0507156     0.31   0.757    -.0848998    .1163871
       _cons |   3.786826   .8694408     4.36   0.000     2.061449    5.512203
------------------------------------------------------------------------------

      Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      1.12
       Model |   5.0439159     1   5.0439159   Prob > F    =    0.2935
    Residual |  443.074346    98   4.5211668   R-squared   =    0.0113
-------------+------------------------------   Adj R-squared =    0.0012
       Total |  448.118262    99  4.52644709   Root MSE    =    2.1263

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          su |  -.0305759   .0289482    -1.06   0.293    -.0880227    .0268708
       _cons |   4.512867   .5079706     8.88   0.000     3.504816    5.520918
------------------------------------------------------------------------------

      Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      0.13
       Model |  1.08639262     1  1.08639262   Prob > F    =    0.7146
    Residual |  791.836073    98  8.07995993   R-squared   =    0.0014
-------------+------------------------------   Adj R-squared =   -0.0088
       Total |  792.922465    99  8.00931783   Root MSE    =    2.8425

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          su |    .0135   .0368167     0.37   0.715    -.0595616    .0865616
       _cons |   3.822377   .6706244     5.70   0.000     2.491545    5.153209
------------------------------------------------------------------------------


Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      0.11
       Model |  .294052993     1  .294052993   Prob > F    =    0.7442
    Residual |  269.137209    98  2.74629805   R-squared   =    0.0011
-------------+------------------------------   Adj R-squared =   -0.0091
       Total |  269.431262    99   2.7215279   Root MSE    =    1.6572
```

```
------------------------------------------------------------------------------
      cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
------------+-----------------------------------------------------------------
         su |  -.0070687   .0216024    -0.33   0.744     -.049938    .0358006
      _cons |   3.861387   .3630175    10.64   0.000     3.14099    4.581783
------------------------------------------------------------------------------
```

```
. forval i=2008/2017 {
 2.
. regress cfund ri if year==`i'
 3.
. }

   Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      7.75
       Model |  18.9238293     1  18.9238293   Prob > F    =    0.0064
    Residual |  239.165252    98  2.44046176   R-squared   =    0.0733
-------------+------------------------------   Adj R-squared =    0.0639
       Total |  258.089081    99  2.60696042   Root MSE    =    1.5622

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          ri |  -.0745363    .026767    -2.78   0.006    -.1276545   -.0214181
       _cons |   4.700994   .3290366    14.29   0.000     4.048031    5.353956
------------------------------------------------------------------------------

   Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      0.20
       Model |  1.46739333     1  1.46739333   Prob > F    =    0.6518
    Residual |   701.90672    98  7.16231347   R-squared   =    0.0021
-------------+------------------------------   Adj R-squared =   -0.0081
       Total |  703.374113    99  7.10478902   Root MSE    =    2.6762

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          ri |  -.0215302   .0475665    -0.45   0.652    -.1159243    .0728639
       _cons |   4.494248   .5924588     7.59   0.000     3.318532    5.669963
------------------------------------------------------------------------------

   Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      9.39
       Model |  17.3168397     1  17.3168397   Prob > F    =    0.0028
    Residual |  180.730489    98  1.84418867   R-squared   =    0.0874
-------------+------------------------------   Adj R-squared =    0.0781
       Total |  198.047329    99  2.00047807   Root MSE    =     1.358

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          ri |  -.0798113   .0260455    -3.06   0.003    -.1314978   -.0281248
       _cons |   4.396652   .3041803    14.45   0.000     3.793016    5.000288
------------------------------------------------------------------------------

   Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      0.01
       Model |  .320225022     1  .320225022   Prob > F    =    0.9185
    Residual |  2981.34723    98  30.4219105   R-squared   =    0.0001
-------------+------------------------------   Adj R-squared =   -0.0101
       Total |  2981.66745    99  30.1178531   Root MSE    =    5.5156

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          ri |   .0106073   .1033878     0.10   0.918    -.1945624    .2157769
       _cons |   4.172441   1.150242     3.63   0.000     1.889823    6.455059
------------------------------------------------------------------------------
```

```
Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      1.45
       Model |  4.95973299     1  4.95973299   Prob > F    =    0.2312
    Residual |  334.813339    98  3.41646264   R-squared   =    0.0146
-------------+------------------------------   Adj R-squared =    0.0045
       Total |  339.773072    99  3.43205123   Root MSE    =    1.8484

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          ri |  -.0449776   .0373298    -1.20   0.231    -.1190572    .0291021
       _cons |    4.437325   .4663134     9.52   0.000     3.511941    5.362709
------------------------------------------------------------------------------

      Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      4.03
       Model |  6.85396605     1  6.85396605   Prob > F    =    0.0476
    Residual |  166.834174    98  1.70238953   R-squared   =    0.0395
-------------+------------------------------   Adj R-squared =    0.0297
       Total |   173.68814    99  1.75442565   Root MSE    =    1.3048

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          ri |  -.0468968   .0233723    -2.01   0.048    -.0932783   -.0005152
       _cons |    4.129241   .2751806    15.01   0.000     3.583154    4.675328
------------------------------------------------------------------------------

      Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      3.92
       Model |  56.3926961     1  56.3926961   Prob > F    =    0.0504
    Residual |   1408.6243    98  14.3737173   R-squared   =    0.0385
-------------+------------------------------   Adj R-squared =    0.0287
       Total |  1465.01699    99  14.7981514   Root MSE    =    3.7913

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          ri |  -.1401911   .0707772    -1.98   0.050    -.2806462    .000264
       _cons |    5.405529   .7918235     6.83   0.000     3.834181    6.976877
------------------------------------------------------------------------------

      Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      1.23
       Model |  5.56877858     1  5.56877858   Prob > F    =    0.2695
    Residual |  442.549483    98  4.51581105   R-squared   =    0.0124
-------------+------------------------------   Adj R-squared =    0.0023
       Total |  448.118262    99  4.52644709   Root MSE    =     2.125

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          ri |  -.0452545   .0407521    -1.11   0.270    -.1261256    .0356166
       _cons |    4.470406   .4534313     9.86   0.000     3.570587    5.370226
------------------------------------------------------------------------------

      Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      0.15
       Model |  1.20468847     1  1.20468847   Prob > F    =    0.7002
    Residual |  791.717777    98  8.07875282   R-squared   =    0.0015
-------------+------------------------------   Adj R-squared =   -0.0087
       Total |  792.922465    99  8.00931783   Root MSE    =    2.8423

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          ri |   .0208158   .0539049     0.39   0.700    -.0861567    .1277883
       _cons |    3.814706   .6608745     5.77   0.000     2.503222     5.12619
------------------------------------------------------------------------------


Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      6.80
       Model |   17.47703     1   17.47703   Prob > F    =    0.0106
    Residual |  251.954232    98  2.57096155   R-squared   =    0.0649
-------------+------------------------------   Adj R-squared =    0.0553
       Total |  269.431262    99   2.7215279   Root MSE    =    1.6034
```

```
------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          ri |  -.0774838   .0297184    -2.61   0.011    -.1364589   -.0185087
       _cons |   4.569753   .3509894    13.02   0.000     3.873226    5.26628
------------------------------------------------------------------------------
```

```
. forval i=2008/2017 {
 2.
. regress cfund rii if year==`i'
 3.
. }

   Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      1.99
       Model |  5.14283934     1  5.14283934   Prob > F    =    0.1612
    Residual |  252.946242    98   2.5810841   R-squared   =    0.0199
-------------+------------------------------   Adj R-squared =    0.0099
       Total |  258.089081    99  2.60696042   Root MSE    =    1.6066

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         rii |  -.0503491   .0356691    -1.41   0.161    -.1211332     .020435
       _cons |   4.331731   .3488722    12.42   0.000     3.639406    5.024057
------------------------------------------------------------------------------

   Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      0.00
       Model |  .011975309     1  .011975309   Prob > F    =    0.9675
    Residual |  703.362138    98  7.17716467   R-squared   =    0.0000
-------------+------------------------------   Adj R-squared =   -0.0102
       Total |  703.374113    99  7.10478902   Root MSE    =     2.679

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         rii |  -.0027801   .0680595    -0.04   0.968    -.1378419    .1322817
       _cons |    4.27627   .5855912     7.30   0.000     3.114183    5.438357
------------------------------------------------------------------------------

   Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      0.19
       Model |  .379852786     1  .379852786   Prob > F    =    0.6653
    Residual |  197.667476    98  2.01701506   R-squared   =    0.0019
-------------+------------------------------   Adj R-squared =   -0.0083
       Total |  198.047329    99  2.00047807   Root MSE    =    1.4202

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         rii |  -.0149953   .0345542    -0.43   0.665    -.0835669    .0535764
       _cons |   3.689641   .3253778    11.34   0.000      3.04394    4.335343
------------------------------------------------------------------------------

   Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      0.34
       Model |  10.2070845     1  10.2070845   Prob > F    =    0.5631
    Residual |  2971.46037    98  30.3210242   R-squared   =    0.0034
-------------+------------------------------   Adj R-squared =   -0.0067
       Total |  2981.66745    99  30.1178531   Root MSE    =    5.5065

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         rii |  -.0742143   .1279112    -0.58   0.563    -.3280499    .1796214
       _cons |   4.835969   1.111163     4.35   0.000     2.630902    7.041036
------------------------------------------------------------------------------
```

```
Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      1.57
       Model |  5.36017337     1  5.36017337   Prob > F    =    0.2131
    Residual |  334.412899    98  3.41237652   R-squared   =    0.0158
-------------+------------------------------   Adj R-squared =    0.0057
       Total |  339.773072    99  3.43205123   Root MSE    =    1.8473

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         rii |    .0585997   .0467557     1.25   0.213    -.0341854    .1513848
       _cons |    3.475228   .4011376     8.66   0.000     2.679184    4.271273
------------------------------------------------------------------------------

      Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      7.37
       Model |  12.1496872     1  12.1496872   Prob > F    =    0.0078
    Residual |  161.538452    98  1.64835156   R-squared   =    0.0700
-------------+------------------------------   Adj R-squared =    0.0605
       Total |   173.68814    99  1.75442565   Root MSE    =    1.2839

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         rii |   -.083421   .0307268    -2.71   0.008    -.1443973   -.0224446
       _cons |    4.400829   .3072118    14.33   0.000     3.791177    5.010481
------------------------------------------------------------------------------

      Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      0.40
       Model |  5.95831401     1  5.95831401   Prob > F    =    0.5285
    Residual |  1459.05868    98  14.8883539   R-squared   =    0.0041
-------------+------------------------------   Adj R-squared =   -0.0061
       Total |  1465.01699    99  14.7981514   Root MSE    =    3.8585

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         rii |  -.0577212   .0912424    -0.63   0.528    -.2387888    .1233464
       _cons |    4.446172    .76458     5.82   0.000     2.928888    5.963456
------------------------------------------------------------------------------

      Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      3.28
       Model |  14.4918081     1  14.4918081   Prob > F    =    0.0734
    Residual |  433.626454    98  4.42475973   R-squared   =    0.0323
-------------+------------------------------   Adj R-squared =    0.0225
       Total |  448.118262    99  4.52644709   Root MSE    =    2.1035

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         rii |  -.0854142   .0471969    -1.81   0.073    -.1790749    .0082465
       _cons |    4.720829   .4379794    10.78   0.000     3.851673    5.589985
------------------------------------------------------------------------------

      Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      0.01
       Model |  .063439339     1  .063439339   Prob > F    =    0.9296
    Residual |  792.859026    98  8.09039822   R-squared   =    0.0001
-------------+------------------------------   Adj R-squared =   -0.0101
       Total |  792.922465    99  8.00931783   Root MSE    =    2.8444

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         rii |  -.0063664    .071895    -0.09   0.930    -.1490398     .136307
       _cons |    4.094777   .6289846     6.51   0.000     2.846577    5.342976
------------------------------------------------------------------------------


 Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      0.38
       Model |  1.04754413     1  1.04754413   Prob > F    =    0.5377
    Residual |  268.383718    98  2.73860936   R-squared   =    0.0039
-------------+------------------------------   Adj R-squared =   -0.0063
       Total |  269.431262    99   2.7215279   Root MSE    =    1.6549
```

```
------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         rii |  -.0230138   .0372106    -0.62   0.538    -.0968569    .0508294
       _cons |   3.952233   .3582797    11.03   0.000     3.241238    4.663227
------------------------------------------------------------------------------
```

```
. forval i=2008/2017 {
 2.
. regress cfund riii if year==`i'
 3.
. }

   Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      7.52
       Model |  18.3886575     1  18.3886575   Prob > F    =    0.0073
    Residual |  239.700424    98  2.44592269   R-squared   =    0.0712
-------------+------------------------------   Adj R-squared =    0.0618
       Total |  258.089081    99  2.60696042   Root MSE    =    1.5639

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       riii |    -.111515   .0406705    -2.74   0.007    -.1922242   -.0308057
       _cons |    4.464341   .2600687    17.17   0.000     3.948243    4.980439
------------------------------------------------------------------------------

   Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      1.04
       Model |  7.41650847     1  7.41650847   Prob > F    =    0.3093
    Residual |  695.957604    98  7.10160821   R-squared   =    0.0105
-------------+------------------------------   Adj R-squared =    0.0004
       Total |  703.374113    99  7.10478902   Root MSE    =    2.6649

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       riii |   -.0792799   .0775785    -1.02   0.309    -.2332319    .0746722
       _cons |    4.690397   .5025313     9.33   0.000     3.69314    5.687654
------------------------------------------------------------------------------

   Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      8.85
       Model |  16.3954408     1  16.3954408   Prob > F    =    0.0037
    Residual |  181.651888    98   1.8535907   R-squared   =    0.0828
-------------+------------------------------   Adj R-squared =    0.0734
       Total |  198.047329    99  2.00047807   Root MSE    =    1.3615

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       riii |   -.1011022   .0339943    -2.97   0.004    -.1685627   -.0336416
       _cons |    4.182579   .2489806    16.80   0.000     3.688485    4.676673
------------------------------------------------------------------------------

   Source |       SS       df       MS   Number of obs   =       100
-------------+------------------------------   F(1, 98)    =      6.10
       Model |  174.777535     1  174.777535   Prob > F    =    0.0152
    Residual |  2806.88992    98  28.6417339   R-squared   =    0.0586
-------------+------------------------------   Adj R-squared =    0.0490
       Total |  2981.66745    99  30.1178531   Root MSE    =    5.3518

------------------------------------------------------------------------------
       cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       riii |   -.3789065   .1533871    -2.47   0.015    -.6832983   -.0745148
       _cons |    6.421179   1.020068     6.29   0.000     4.396888    8.445471
------------------------------------------------------------------------------
```

```
 Source |    SS      df    MS   Number of obs  =    100
-------------+----------------------------------  F(1, 98)    =   9.96
    Model | 31.3596332     1 31.3596332  Prob > F    =  0.0021
  Residual | 308.413439    98 3.14707591  R-squared    =  0.0923
-------------+----------------------------------  Adj R-squared  =  0.0830
    Total | 339.773072    99 3.43205123  Root MSE    =   1.774

------------------------------------------------------------------------------
    cfund |   Coef.  Std. Err.   t  P>|t|   [95% Conf. Interval]
-------------+----------------------------------------------------------------
    riii | -.1570785  .0497605  -3.16  0.002  -.2558266  -.0583304
    _cons |  4.722255  .3095461  15.26  0.000   4.107971  5.336539
------------------------------------------------------------------------------

   Source |    SS      df    MS   Number of obs  =    100
-------------+----------------------------------  F(1, 98)    =   14.41
    Model | 22.2616619     1 22.2616619  Prob > F    =  0.0003
  Residual | 151.426478    98 1.54516814  R-squared    =  0.1282
-------------+----------------------------------  Adj R-squared  =  0.1193
    Total |  173.68814    99 1.75442565  Root MSE    =   1.243

------------------------------------------------------------------------------
    cfund |   Coef.  Std. Err.   t  P>|t|   [95% Conf. Interval]
-------------+----------------------------------------------------------------
    riii |  -.133919  .0352818  -3.80  0.000  -.2039347  -.0639033
    _cons |  4.407777  .2367225  18.62  0.000   3.938009  4.877546
------------------------------------------------------------------------------

   Source |    SS      df    MS   Number of obs  =    100
-------------+----------------------------------  F(1, 98)    =   1.80
    Model | 26.3815281     1 26.3815281  Prob > F    =  0.1832
  Residual | 1438.63547    98 14.6799537  R-squared    =  0.0180
-------------+----------------------------------  Adj R-squared  =  0.0080
    Total | 1465.01699    99 14.7981514  Root MSE    =  3.8314

------------------------------------------------------------------------------
    cfund |   Coef.  Std. Err.   t  P>|t|   [95% Conf. Interval]
-------------+----------------------------------------------------------------
    riii |  -.13408  .1000176  -1.34  0.183  -.3325616  .0644016
    _cons |  4.806411  .6953024   6.91  0.000   3.426606  6.186216
------------------------------------------------------------------------------

   Source |    SS      df    MS   Number of obs  =    100
-------------+----------------------------------  F(1, 98)    =   8.54
    Model | 35.9122134     1 35.9122134  Prob > F    =  0.0043
  Residual | 412.206049    98 4.20618417  R-squared    =  0.0801
-------------+----------------------------------  Adj R-squared  =  0.0708
    Total | 448.118262    99 4.52644709  Root MSE    =  2.0509

------------------------------------------------------------------------------
    cfund |   Coef.  Std. Err.   t  P>|t|   [95% Conf. Interval]
-------------+----------------------------------------------------------------
    riii | -.1727659  .0591263  -2.92  0.004  -.2901002  -.0554316
    _cons |  4.905238  .3642637  13.47  0.000   4.182368  5.628107
------------------------------------------------------------------------------

   Source |    SS      df    MS   Number of obs  =    100
-------------+----------------------------------  F(1, 98)    =   6.13
    Model | 46.6663462     1 46.6663462  Prob > F    =  0.0150
  Residual | 746.256119    98 7.61485836  R-squared    =  0.0589
-------------+----------------------------------  Adj R-squared  =  0.0493
    Total | 792.922465    99 8.00931783  Root MSE    =  2.7595

------------------------------------------------------------------------------
    cfund |   Coef.  Std. Err.   t  P>|t|   [95% Conf. Interval]
-------------+----------------------------------------------------------------
    riii | -.1839993  .0743267  -2.48  0.015  -.3314983  -.0365003
    _cons |  5.054189  .4922448  10.27  0.000   4.077345  6.031033
------------------------------------------------------------------------------


Source |    SS      df    MS   Number of obs  =    100
-------------+----------------------------------  F(1, 98)    =   12.44
    Model | 30.3432645     1 30.3432645  Prob > F    =  0.0006
  Residual | 239.087997    98 2.43967344  R-squared    =  0.1126
-------------+----------------------------------  Adj R-squared  =  0.1036
    Total | 269.431262    99  2.7215279  Root MSE    =  1.5619
```

```
------------------------------------------------------------------------------
      cfund |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
------------+-----------------------------------------------------------------
       riii |  -.1643351   .0465978    -3.53   0.001    -.2568069   -.0718634
      _cons |   4.750848   .3225226    14.73   0.000     4.110812    5.390883
------------------------------------------------------------------------------
```

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Appendix D: Publishing Alexander Schroff

Alexander Schroff
Senior Manager Capital Markets
bei Deloitte

Die aktuelle ökonomische und regulatorische Marktentwicklung erhöht den Druck auf klassische Finanzdienstleister wie Banken ungemein. Auf der einen Seite bedrohen Niedrigzinsumfeld, regulatorische Anforderungen an Eigenkapitalquoten sowie fristenkongruente Finanzierunganforderungen das Geschäftsergebnis von Banken, auf der anderen Seite sorgen neue disruptive, innovative und digitale Technologien für neue Nischenmärkte.

Durch Marktteilnehmer wie Crowdfunding- bzw. Crowdinvesting-Plattformen, Fin Apps oder Zahlungsverkehrsanbieter wie Paypal, Google oder Apple Pay verlagern sich immer mehr Segmente des klassischen Bankgeschäfts auf digitale Nischenanbieter.

Betrachtet man den europäischen Crowdfunding- bzw. Crowdinvesting-Markt, lässt sich feststellen, dass dieser zwischen 2015 und 2016 um 28,9% von nominell 847 auf 1191 Mill. Euro gewachsen ist. Allein im Jahr 2016 wurden so mehr als 69000 Finanzierungskampagnen realisiert, ohne dass dabei Banken als traditionelle Finanzdienstleister involviert waren. Folgt man der Prognose des statistischen Bundesamts im Rahmen des Digital Market Outlook, ist davon auszugehen, dass sich dieser Wachstumstrend fortsetzt. Bis 2021 ist mit einem Crowdfunding-/Crowdinvesting-Volumen von mehr als 5278 Mill. Euro zu rechnen.

Für Banken ist hierbei besonders interessant, dass 4486 Mill. Euro allein auf Crowdinvesting-Projekte entfallen mit einem durchschnittlichen Fundingvolumen von mehr als 314000 Euro pro Kampagne.

Dieser Trend zeigt deutlich, dass kleine bis mittelständische Unternehmen diesen Nischenmarkt für sich entdeckt haben und stärker dazu tendieren, Projekte und Investitionen abseits des altbewährten Bankenmarktes zu realisieren. Kleine und mittelständische Unternehmen sind mit mehr als 90% innerhalb der Europäischen Union für Innovation verantwortlich (Europäische Kommission, Horizon 2020) und damit ein signifikant wichtiges Kundensegment für Banken und Finanzdienstleister.

Betrachtet man diesen wachsenden Trend, lässt sich eine massive Stück-für-Stück-Verschiebung der klassischen Bankdienstleistungen und Produkte hin zu neuen innovativen digitalen Märkten verzeichnen.

Banken entwickeln sich mehr und mehr zu Abwicklungsintermediären

Während bei den altbekannten Zahlungsverkehrsdienstleistungen ein Markteintritt für Banken verpasst scheint und damit ein Konkurrieren mit etablierten Anbietern wie Paypal, Google oder Apple Pay kaum mehr möglich scheint, haben Banken bei Themen wie Crowdfunding/Crowdinvesting den Markteintritt zumindest augenscheinlich noch nicht verpasst.

Damit Banken dem wachsenden und völlig neuen Wettbewerb entgegentreten können, ist ein schnelles Anpassen von Markteintrittsstrategien notwendig. Mit dem Wissen von heute kann man davon ausgehen, dass es sich bei dieser Entwicklung gerade nicht um einen nur kurz andauernden Trend handelt, sondern vielmehr um das Entstehen eines völlig neuen disruptiven Marktes.

Dass ein Großteil dieses neuen Marktes zumindest auf europäischer Seite noch nicht ausreichend reguliert ist, führt zu großen Unsicherheiten und birgt zumindest hinreichend das Potenzial für neue systemische Risiken. Allein vor dem Gesichtspunkt dieser Problematik wäre ein schneller Markteintritt von Banken und regulierten Finanzdienstleistern zumindest wünschenswert.